RESOURCE LOSS AND EXPECTED LOSS AS PREDICTORS OF DISTRESS FOR TRAUMATIC, MAJOR, AND MINOR LIFE EVENTS

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CHAPTER I

INTRODUCTION

Like most areas of psychological research, stress has been studied under a number of guiding theories; and within each of these theories, stress is defined, conceptualized, and studied differently. Some early theories of stress focused on the stressful event itself, while still others focused on the characteristics of the individual experiencing the stressor. More recent theories have attempted to integrate the characteristics of the stressor, the characteristics of the individual, and the individual's reaction into more complex and expansive theories of stress. Encountering stressful events is thought to disturb the individual, who in turn has specific characteristics of his or her own. These individual characteristics are thought to make it more or less likely that the individual will be able to appropriately cope with the stressful event. The challenge involved in studying such experiences is then not only to address which events may be called stressors, but also what types of characteristics held by the individual tend to have stress mediating and moderating effects, and under what conditions those characteristics are best suited (Breznitz & Goldberger, 1993).

In addition to the myriad ways one can conceptualize stress, traumatic life events, which some argue are a special subtype of stressful events, are usually not studied within the same literature as general stress. Because of this, the task of integrating the literature pertinent to this area becomes a difficult one. One must not only include studies which examine stress from completely different theoretical points of view, but also include literature which may not be formally examined under stress theory. However, the

examination of these literatures together could resolve a number of unanswered questions within each of them. For example, by comparing individuals' reactions to different types of stressful events, the differences and similarities among these events could be better deciphered.

Within the expansive literatures of stress and trauma, there are a profusion of complex, multifaceted theories. Over time, some theories have been shown to be obsolete due to their simplistic nature, while others have survived, and in many cases, have been expanded upon in enormous detail. Each of these theories hypothesizes that differing constructs (e.g., type of stressor, loss, personal goals or attitudes) are the cause of stress, and that certain other constructs mediate or moderate the experience of stress (e.g., social support, change of goals, avoidance of stressors, self-esteem). One major problem within the literatures of stress and trauma is that few theories within them have been carefully prospectively studied. The current study attempts to prospectively study one complex major stress theory that has been theorized to bridge the gap between the two literatures of stress and trauma.

Although a comprehensive review of stress research is beyond the scope of this paper, this introduction will begin with a discussion of the findings concerning the psychological impact of various stressful life events. In doing so, it is hoped that the reader will be convinced that the likelihood of such events happening is great, and that their effects on the individual can be catastrophic. Next, this discussion of the stress literature will contain an overview of how stress has been conceptualized in the past, and more specifically how one theory of stress, the Conservation of Resources Theory (COR; Hobfoll, 1989), compares with that of Lazarus' (1993) well supported stress theory, the

Cognitive-Motivational-Relational Theory (CMR). This introduction concludes with a description of how the current study may add to the stress literature by testing some of the basic premises behind the COR Theory, that have not yet been examined empirically. However, before I begin my discussion of the psychological impact of stressful life events, I would first like to define a few terms that will be essential to any further discussion of stress.

Authors within the stress literature have utilized numerous terms to categorize various life events. Because very similar terms are sometimes used for very different stimuli, this process is often confusing to the consumers of this research. For this reason, the following definitions are provided for several terms that will be utilized throughout this paper. When not discussing a specific theory of stress that includes its own definition of a stressor, I will use the definition of a stressor put forth by Breznitz and Goldberger (1993, p. 3), who defined stressors as "external events or conditions that affect the organism." In this way, the event is thought to contain specific properties that may make a stress response more or less likely in the individual. Traumatic life events will be defined as "any event which can be classified as a traumatic event by diagnostic Criterion A-1 for Posttraumatic Stress Disorder (PTSD) within DSM-IV (APA, 1994); that is, "an event which a person has experienced or witnessed that involved actual or threatened death or serious injury to self or others." Other terms that have been used for this type of event include potentially traumatic event, Criterion A event, and traumatic event. Major life events will be defined as "aberrant objective events that negatively affect the individual." In this way, traumatic events differ from major life events in that they possess the ability to lead to future DSM-IV diagnosis of PTSD. Other terms that have

been used to classify this type of event include serious life event, negative life event, and major negative life event, to name just a few. Finally, minor life events will be defined as "common, irritating, objective events that negatively affect the individual." Minor life events are then differentiated from major life events in that they are more common and are less *individually* stressful. Other terms used to categorize minor life events include hassles, daily hassles, and minor negative events. Utilizing the above terminology, what follows is a discussion of the findings regarding the deleterious effects of various stressful life events.

The Psychological Impact of Stressful Life Events

As stated earlier, the literatures of major/minor events and traumatic life events have historically been separated by a large conceptual chasm. Traumatic life events are often studied in association with the psychological outcome of PTSD, within treatment or large epidemiological studies. Alternatively, major and minor life events are usually studied with other types of psychopathology such as depression and anxiety; and are often studied in an attempt to prove or disprove some grand theory associated with these events' meaningfulness. Because of this division in the literature, it has been difficult if not impossible to compare the relative psychological effects of traumatic, major, and minor life events. One reason for this division is that stress theorists have not until recently broadened their conceptualization of stress to include such concepts as trauma within their more complex theories. In fact, some stress theorists now view traumatic events as a special subtype of stressful life experiences (see Hobfoll, Dunahoo, & Monnier, 1995). For this reason, I will discuss the psychological effects of stressors in two sections. The first section will discuss the findings as they apply to traumatic life

events, while the second section will discuss the findings regarding major and minor life events.

Traumatic Life Events

A large literature exists which suggests that traumatic life events actually occur quite frequently. In a recent review of studies investigating civilian-related trauma and PTSD, Resnick, Falsetti, Kilpatrick and Freedy (1996) reported that the prevalence of lifetime exposure to traumatic events varied from 40-70%. Similar estimates were found in three other recent studies, all utilizing large representative samples. In their representative U.S. sample of 5877 individuals, Kessler, Sonnega, Bromet, Hughes, and Nelson (1995) estimated that approximately 55% of the sample had experienced a traumatic event in their lifetime. In a study assessing 1,393 residents of Toronto, Turner and Lloyd (1995) found that nearly 65% of their sample had experienced a traumatic event, and that over 17% had experienced three or more such events. Finally, Breslau, Kessler, Chilcoat, Schultz, Davis, and Andreski (1998) reported a 89.6% lifetime prevalence of traumatic events in their sample of 2181 people living in the Detroit area; with a mean number of 4.8 events reported per person. Thus, although studies of representative civilian populations vary in the specific prevalence rate of exposure to traumatic events, the lifetime prevalence rates are uniformly high.

Because the current study involved a sample of college students, I would also like to discuss two recent studies addressing the prevalence of traumatic events within this specific population. Vrana and Lauterbach (1994) found that 84% of their sample of 440 college students had experienced at least one traumatic event, and that the mean number of events reported in their sample was 2.98 for males, and 2.52 for females. Similarly,

Bernat, Ronfeldt, Calhoun, and Arias (1998) found that 67% of their sample of 937 college students reported at least one traumatic event. Therefore, at least in these two studies, the rates for traumatic event exposure in these samples of college students were similar to those found in larger, representative, civilian samples.

Further, exposure to traumatic life events has been associated with an increased risk in psychological distress, most notably Posttraumatic Stress Disorder (PTSD). In the studies reviewed by Resnick et al. (1996), of those respondents who had experienced some type of civilian traumatic event, 18-28% met criteria for PTSD. However, a somewhat lower estimate can be found in two other recent studies. Kessler, et al. (1995) estimated that 7.8% of those in their national community sample who had experienced a trauma, also met criteria for PTSD in their lifetime; while Breslau et al. (1998) reported that 9.2% of their community sample met criteria for PTSD after traumatic event exposure. Resnick et al. (1996) suggests that studies that have found lower prevalence rates may not have thoroughly assessed for a wide variety of potentially traumatic events. However, the larger prevalence rates found by Resnick et al. (1996) may have been due to a looser definition of what constitutes a traumatic event. Similar to these larger epidemiological studies, Bernat, et al. (1998) found that 12% of their sample of college students who reported at least one traumatic event met PTSD symptom criteria within the past week.

Although PTSD symptomology can be significant following traumatic events, the level of symptom severity usually decreases over time. Rothbaum, Foa, Riggs, Murdock, and Walsh (1992) assessed PTSD symptomology in rape victims within two weeks of their assault and found that the vast majority (94%) met the symptom criteria for PTSD.

Follow-up assessments at 6 months post-assault found that the numbers of women meeting symptom criteria for PTSD had decreased to 41.7%. A similar pattern was seen in another study examining PTSD in both male and female non-sexual assault victims (Riggs, Rothbaum, & Foa, 1995). Initially, 71% of the women and 50% of the men met symptom criteria for PTSD. At three months post-assault, 21% of the women and none of the men showed the full symptom criteria for PTSD.

PTSD, however, is not the only problem encountered by victims of traumatic life events. There are also a variety of other related symptoms that can be acquired through the experience of trauma, including anxiety, depression, and substance abuse, to name just a few (Turner & Lloyd, 1995). One recent example comes from a survey of 391 women who were part of a larger representative community sample of 1,467 residents of Charleston, South Carolina. In this study, Falsetti, Resnick, Dansky, Lydiard, and Kilpatrick (1998) found a high prevalence rate of victimization (94.4%) among those respondents meeting criteria for panic disorder versus those who did not meet that criteria (5.6%). In their sample of college students, Vrana and Lauterbach (1994) found that those students who reported experiencing a traumatic event reported significantly more symptoms of general psychological distress than did those students who did not experience such events. Traumatized respondents reported significantly more symptoms of depression, anxiety, and PTSD than those students who did not experience a traumatic event. It is evident then, that traumatic events are common among normal populations, with their prevalence ranging from 40-90% in recent studies. In addition, 8-28% of those who experience traumatic events meet criteria for PTSD, with additional victims experiencing heightened levels of depression, anxiety, and substance abuse.

Major and Minor Life Events

The study of life events has changed over the years due to the increased emphasis on individual characteristics and the incorporation of minor life events or "hassles" into the stress literature. This historical perspective will be discussed in greater detail later when specific theories of stress are addressed. Major and minor life events are often examined together within studies, but are sometimes addressed separately as well. Recently, two reviews of the life events literature have shown that major life events are linked to several negative psychological outcomes including depression, generalized anxiety disorder, panic disorder, and PTSD (Kessler, 1997; Mazure, 1998). Focusing on the depressive outcomes associated with life events, Kessler (1997) explains that an association between major life events and depression has been consistently documented; however, the greater portion of evidence of this association is nonexperimental, and therefore, directionality can only be implied. Thus, it is likely that the effects of depression are reciprocal, in that depression can not only be caused and exacerbated by major life events, but also that depression in turn can elicit major life events.

Examples of this reciprocal relationship come from studies with seemingly contradictory findings. Otto, Fava, Penava, Bless, Muller, and Rosenbuam (1997) found that depressed patients were less successful at moderating the impact of major life events than were patients who had gone through 8 weeks of treatment for their depression. Thus, the individual's level of depressive symptomology was conflicting with their abilities to cope with major life events. Utilizing different methodology, Breslau, Davis, Andreski, Federman, and Anthony (1998) interviewed 1007 members of a health maintenance orgainization in Southeast Michigan. They again interviewed 97% of those people 3.5

years later. Findings included that having major depression or any anxiety disorder significantly increased the risk for exposure to a traumatic life event over that time period. On the other hand, Scaloubaca, Slade, and Creed (1988) found that first year undergraduates who sought help in a student health center for psychological or physical symptoms tended to report experiencing major life events in the previous year such as a dissolution of a close relationship, or the death or serious illness in the family. Consequently, in this study it appears as though it is the major life events that have exacerbated symptoms in these students. Moreover, in her review of the life event literature, Mazure (1998) wrote that most people who develop major depression experience at least one major life event *prior* to that diagnosis. In their study addressing minor life events, Pearlstone, Russell, and Wells (1994) found that the association between hassles and outcomes is also bi-directional; in that for some outcomes, namely health status, it may at times be more plausible that those in poor health are hassled by this condition, rather than hypothesizing that experienced hassles have brought about their poor health. Therefore, with both major and minor life events, it is difficult to determine when such events are the cause of symptoms of psychopathology, and when it is the symptoms that leave individuals vulnerable to increased major and minor life events.

Despite these findings (Fava, et al., 1997; Kessler, 1997; Scaloubaca, et al., 1988), there is also a growing area of literature that asserts that major life events have little direct effect on psychological distress, but instead that major life events increase the probability that an individual will experience minor life events; and that these minor life events have a great impact on psychological well being. In their study of 359 parents and their

children, Pillow, Zautra, and Sandler (1996) examined if minor life events mediate the relationship between major life events and distress. Minor life events and psychological distress were measured in three groups of parents who had experienced one of the three major life events in the past two years: loss of a spouse, divorce from a spouse, or having a child diagnosed with asthma. By comparing several different interactional models, the researchers found that major life events exert an indirect influence on distress through minor life events, and to a lesser extent, a direct influence on distress. Similarly, a number of other studies have simply found hassles to be better predictors of various types of distress than were major life events (Burks & Barclay, 1985; Kanner, Coyne, Schaefer, & Lazarus, 1981; Russell & Davey, 1993).

Lazarus (1998) in his analysis of the extant literature, states that minor stressors of daily living are indeed more strongly associated with current levels of distress than are major life events, such as death of a loved one, job loss, or divorce. Several explanations for this finding exist. First, the occurrence of major life events is relatively rare, whereas minor life events occur to a great extent in normal daily living. Further, minor life events may be better predictors of distress because they are more salient at the time the individual is being questioned. Another possibility is that minor life events may be more impacted by the individual's current level of distress than are major life events. That is, a person may pay attention to daily hassles more when they are distressed; however, the memories of past major life events may not be as easily altered.

Although an association between major and minor life events and psychological distress has been shown in numerous studies, this relationship is far from being fully explained. The complex interaction among types of life events and psychopathology

makes many of the findings regarding major and minor life events difficult to interpret. More studies testing specific hypotheses related to stressful life events are needed; and it is for this reason that more complex theories of stress exposure and adaptation are necessary. Such theories allow us to form and test specific hypotheses regarding the stress experience. With this in mind, the following section addresses theories of stress, and how stress theory has evolved over time.

Theories of Stress

Over the years, researchers have proposed a variety of theories in an attempt to account for the human reaction to stressful life circumstances. Early theories of stress response considered the stimuli involved in such events, or the responses of those involved, but rarely discussed how each of these may interact to affect psychological outcome. Lazarus (1966) was one of the first researchers to categorize stress theories in this way. He classified all theories of stress into three general categories: stimulus-oriented theories, which addressed those events that were thought to precipitate stress, response-oriented theories, that intended to measure the responses of those experiencing stress, and interactional theories, such as Lazarus' own model. By categorizing stress theories in this way, Lazarus set his early interactional model of stress apart from a number of other theories that were dominating stress research at the time. He also began a conceptualization of stress that has since spawned a tremendous amount of research as well as a number of varying, yet similar, interational-oriented theories.

Interactional-oriented Stress Theories

Breznitz and Goldberger (1993) wrote that it was likely their lack of attention to individual differences that left stimulus and response-oriented theories open to the

greatest amount of criticism during the resurgence of cognitivism in the latter part of this century. Most current interactional-oriented theories of stress place heavy emphasis on coping and the ideas of appraisal and control (Breznitz & Goldberger, 1993). Interactional-oriented theorists hypothesize that individuals bring varying personal characteristics into stressful situations, and that these characteristics account for the individual differences often found in stress responses. In this way, the characteristics of the individual are thought to be mediating factors between the characteristics of the event and of the individual's response to it (Derogatis & Coons, 1993).

What follows is a review of two such interactional-oriented theories. The first model, put forth and subsequently expanded by Lazarus (1966, 1981, 1993), emphasizes the individual's cognitive and emotional expectations and experiences of the stressful situation. Lazarus' (1993) Cognitive-Motivational-Relational (CMR) Theory of Stress is not only the oldest interactional-oriented theory, but is also the most heavily researched and well developed. By reviewing this theory first, and discussing its strengths and weakness, I hope to give the reader some perspective regarding the current state of stress theory, and to provide a standard by which to compare the second theory, Hobfoll's (1989) Conservation of Resources (COR) Stress Theory. Hobfoll's COR Theory, emphasizes the use of an individual's resources prior to, during, and following the stressful situation. I will review this theory and discuss its relative strengths and weaknesses while comparing and contrasting its concepts with those of Lazarus' CMR Theory. In doing so, I hope to convince the reader that COR Theory is not only a clearly viable theory of stress, but also that because of its behavioral nature, it may lend itself to empirical testing more aptly than CMR Theory. However, due to the current paucity of

research on COR Theory, many of the main corollaries of this theory have yet to be empirically determined. This lack of evidence regarding some of the basic tenets of the theory has left COR Theory open to a great deal of criticism.

Cognitive-Motivational-Relational Theory of Stress

A key feature of Lazarus' theory is that it is "transactional" which he discriminates from "interactional" by explaining that interaction is more common among behavioral theories of stress, and that it treats people as passive creatures who merely react to environmental demands (Lazarus, 1998). Lazarus continues by saying that transaction is instead thought to explain the "relational meaning" constructed by the individual. Within Lazarus' theory, not only does the environment affect the person, but the person affects the environment as well. Because of this person/environment transaction, the antecedents to stress are also subject to change (Lazarus, 1981). Thus, both the person and the event are seen as changing over time.

Lazarus asserts that there are four concepts that need to be considered when discussing the stress process: a causal agent or stressor, an evaluation distinguishing benign from noxious stimuli, the coping process used to deal with the stressor, and the reaction of the mind and body to the stressful event (Lazarus, 1993). Here, I will review the two components of Lazarus' theory most relevant to the current discussion: the evaluation of stimuli, and the subsequent coping process. First, however, I will begin by discussing a third element which is most vital to the stress process and will greatly affect the subsequent two components of the stress process. This important construct is the individual characteristics that the person possesses prior to an encounter with a stressful event.

Individual Characteristics. The first important individual characteristic discussed within Lazarus' theory is that of goals. Lazarus (1993) hypothesizes that people enter into all situations with certain goals in mind. Therefore, the importance of the goals that people bring into encounters comprise the motivational aspects of his theory. If these goals are less important to the individual in a given situation, then a negative outcome will have little impact; however, if the goals for the situation are of great personal importance, such as a proposal of marriage, a negative outcome could be quite disturbing for the individual.

The second and third types of characteristics that individuals bring into all encounters are those of knowledge and beliefs. These two elements, along with the ability to appraise the situation are thought to compose the cognitive component of this theory. First, it is thought that individuals bring varying degrees of knowledge into situations. For example, people have varying degrees of knowledge concerning social situations, other people, and of themselves. Second, people can also have a wide range of beliefs regarding those same things. That is, they may have different ideas about what is right or wrong, or what is appropriate or inappropriate in any given situation. Each of the these characteristics will greatly affect the next step in the stress process, goal appraisal.

Evaluation of Stimuli.

Cognitive Appraisal. People are thought to continually appraise the significance of situations in terms of their goals (Lazarus, 1991). That is, people evaluate situations and attach meaning to them in terms of their end goal for that situation. Lazarus (1981) cites Pearlin's (1975) findings as one example of this process of meaning attachment. Within this study, Pearlin found that marital stress is not best predicted by status

inequality between the marital partners, but that instead, by the meaning that is given to this status inequality. Therefore, marital partners incorporate their goals, knowledge, and beliefs regarding status into their appraisal of the relationship.

This cognitive appraisal of the situation is thought to mediate between the demands, constraints, and resources of the environment, and the goal hierarchy and personal beliefs of the individual (Lazarus, 1993). Lazarus completed a number of experiments during the 60's and 70's addressing the relationship between the outcome following experimentally produced stressors, such as stressful videos or threat of electric shock, and the participants' appraisal of the stressor. The cumulative findings from these studies are thought to provide proof that a connection between an individual's appraisal of the situation and his or her psychological outcome exists. This appraisal process is thought to be of utmost importance since, according to Lazarus (1993), there are many realities other than a single one, and this process can produce a reality all its own.

Lazarus contends that the appraisal process is thought to integrate the person's goals and beliefs by indicating what meaning they have for the individual's general well-being. Lazarus (1993) organizes the thought's one can have regarding this appraisal into molar and molecular categories. At the molar level are what Lazarus terms Core Relational Themes (CRTs). CRTs involve the basic themes that are said to be involved within emotions. Examples of CRTs include anger, anxiety, fright, guilt, and shame. Lazarus asserts that although settings and culture play a part in the meanings of these themes, certain CRTs are universal across cultures, and are an integral part of the human condition.

On the molecular level, the pattern of appraisal is based on six decisional components, three primary and three secondary. Primary components include the motivational aspects of the situation. That is, in terms of one's goal, what is at stake in the situation, is the situation possibly harmful, and what type of ego-identity will be involved. The three secondary components provide expectations and options for coping. They include who should receive blame or credit, how or if one can cope with the situation, and finally, what expectations one will have for future encounters. Lazarus (1993) discusses that each of these appraisal components may happen in sequence, at the same time, or at completely different times all together. However, it is difficult to see how these two sets of components are to be operationalized, so that they may become unique facets in determining the stress process empirically. In fact, it is difficult to imagine where one would begin in separating many of the appraisal components, that Lazarus himself contends are intimately interwoven. Also, as stated by Lazarus (1993), there are disagreements within the literature about the actual appraisal patterns for each emotion; thus, further delineating the difficulties in operationalizing these terms.

In general, there are thought to be three types of event appraisal: irrelevant, benign-positive, and stressful. The stressful type of appraisal can then be broken down into three sub-types: harm/loss, threat, or challenge. Harm/loss is said to refer to injury or damage already done. Threat is thought to refer to the same types of loss, except that they have not occurred yet. The difference between challenge and threat is said to be that with threat the person sees that they do not have the resources needed to effectively cope with the event, and that challenges entail an opportunity for growth, if the person meets the challenge (Lazarus, 1984). To summarize, a series of highly complex cognitive appraisals

is thought to be aroused by both environmental conditions and the person's motives and beliefs. Thereafter, these cognitive appraisals are thought to significantly affect subsequent emotional expression.

Emotional Expression. Lazarus (1993) proposes that after the individual goes through a series of appraisals, which outline options for coping and expectations about future encounters, that each of these steps will have an impact on the type of emotion expressed. Because of this constant re-appraisal of events, and the use of this information in the future appraisal of similar events, the meanings of events and the emotions they bring about are constantly changing. Lazarus asserts that psychological stress centers on negative emotions that result from harms, losses, and threats. Lazarus (1993) asserts that there are 9 negative emotions including: anger, fright, anxiety, guilt/shame, sadness, envy, jealousy, and disgust, and 4 positive emotions that can serve to moderate the effects of stressors: pride, happiness, relief, and love. Lazarus further argues that the causes of such emotions reside in the individual, not the environment. Again to summarize, Lazarus (1981) states that emotions are the outcome of actual, imagined, or anticipated cognitively mediated transactions with the environment, termed cognitive appraisals. Psychological stress then refers to demands that tax or exceed available resources (internal and external) as appraised by the person involved. Stress is therefore not an event, or characteristic, or a response, but instead the relationship between those things (Lazarus, 1981).

Coping Process. Coping is also proposed to play a large part in this emotion-based model. The two most important functions of coping within stress resistance are problem-focused coping and emotion-focus coping (Folkman & Lazarus, 1988). Lazarus (1993)

defines problem-focused coping as a response that results in actual change in the person-environment relationship through direct actions on the environment or changes in the individual's behavior; while emotion-focused coping is defined as a response that produces subjective change, in that through reappraisals of the situation, the person is not as invested in the original goal of the situation as he or she once was (Lazarus, 1993). Emotion-focused coping can be accomplished in one of two ways. First, attention can be diverted away from a stressful situation, and second, attempts can be made to change the personal meaning of the encounter. This type of coping is thought to include such processes as denial and distancing (Lazarus, 1993). The "bottom line" as Lazarus (1993) calls it, is that coping influences emotion through a change in appraisal. This change can occur subjectively through redirection or changing the meaning of an event, or it can occur more directly in changing the reality of the situation.

Which type of coping will be most appropriate is thought to be dependent on the characteristics of the situation; and the best copers are thought to be able to use either of these strategies in a flexible manner. Lazarus proposes four general coping strategies: information-seeking, direct action, inhibition of action, and intrapsychic process. These four types can serve both problem-solving and emotion-regulatory functions. They are also each capable of being oriented to the self and environment, and each is concerned with past, present, or future forms of threat, loss, and challenge. Information seeking is thought to aid in coping by offering the individual new insight into the situation, and thus it may also serve to make the person feel better by rationalizing or bolstering past decisions (Lazarus, 1981). Direct actions involve behavioral responses, while inhibition

of action involves the ability to curtail behavioral response. Finally, intrapsychic processes include all of the cognitive processes designed to regulate emotions.

Again, since there is such a great deal of overlap between the constructs outlined by Lazarus for appraisal and coping, it is difficult to determine how they can be separately empirically tested. If a possibly stressful event is appraised by an individual as benign because the person's goal for the situation is not important, how can we say with any degree of certainty that this appraisal was their original goal appraisal, or a re-appraisal of their goal (coping) to match the circumstances of the situation? Is this cognitive coping, or a goal based on future expectations? Another problem with the concept of coping lies in the fact that coping is seen as a set of complex acts made in response to a set of complex demands. However, are we to assume that coping strategies are only utilized when such a demand exists? We must then assume that actions that are associated with coping are in fact different from actions made by people not faced with potentially stressful events.

Coping is usually assessed through checklists containing multiple coping tactics which are classified into the various modes of coping. Folkman and Lazarus (1988) created one such measure, the Ways of Coping Questionnaire, to measure this coping process. Because this questionnaire asks people about their thoughts and actions, it has been proposed that it avoids inferences about coping that could contaminate this construct if more simple questions were asked, such as "How did you deal with this situation?" There are several major findings regarding coping from studies using the Ways of Coping Questionnaire. First, coping is not a simple mechanism, people use various coping strategies in complex ways. Second, the type of coping that is used depends on the

appraisal of the situation. Third, coping strategies differ from stage to stage within a stressful encounter, that is, a person may use a variety of coping strategies within a single situation depending on their current appraisal. Fourth, coping is a mediator for emotional outcome. Finally, the usefulness of a coping strategy varies with the type of stressor, the person that is being stressed, and the type of outcome being studied (see Lazarus, 1993 for a full review).

One major shortcoming of this literature is that most of the research regarding coping uses self-report checklists, such as the Ways of Coping Questionnaire. Because distress is also often measured through self-report measures, the evidence found in these studies is merely correlative in nature; so the direction of this association can not be easily determined (Lazarus, 1993). Second, because many authors now regularly use the Ways of Coping Questionnaire, it is by far the most heavily researched component to Lazarus' theory. However, as described earlier, it is but one component in an incredibly complex theory. There remain many aspects of Lazarus' theory that have not undergone such rigorous testing. Lazarus (1981) wrote that the assessment of denial, avoidance, and other forms of coping is marked with ambiguity and confusion. This confusion was thought to occur because many current researchers treat coping processes as static entities, and not as malleable methods for comprehending one's environment. However, isn't it just as likely that this confusion comes from the difficulty inherent in assessing if a person denying or avoiding? The likelihood of being able to accurately measure a thought or behavior that may or may not be within conscious awareness seems tenuous at best.

Conclusion. In summary, according to Lazarus' theory, once a stimulus event occurs, the individual, with his or her own set of beliefs, goals, and knowledge, evaluates that event to determine if it is in fact a potential stressor. This evaluation occurs through two levels of appraisal, which Lazarus terms CRTs and specific patterns of appraisal. These cognitive appraisals in turn bring about emotions, allowing the individual to cognitively label the event as noxious. At this time, the person is also involved in coping processes, with the goal of managing the effects of the stressor. These processes of coping can be centered around more problem-focused or emotion-focused methods of dealing with the event. Finally, Lazarus describes the person's mental and physical reactions to the stressor; with an emphasis that none of these processes occurs in a vacuum, but that they are each intricately intertwined.

As discussed earlier, this theory has a number of conceptual and empirical limitations. First, it is difficult to see the utility of Lazarus' interwoven components of appraisal, which appear impossible to fully operationalize since they may occur in sequence, at the same time, or at different times. Furthermore, even if such analyses were possible, the current literature is in disagreement about the actual appraisal patterns for each emotion (Lazarus, 1993). Lazarus contends that the difference between challenge appraisals and threat appraisals is that threat appraisals refer to injury or damage that has not occurred yet, and that challenge appraisals entail an opportunity for growth, if the person meets the challenge (Lazarus, 1984). However, it is difficult to imagine how these appraisals differ if people do not know if they will be able to cope with an event until they have attempted to do so. Finally, Lazarus often implies causality within complex systems that are seemingly impossible to partition out. Because each component is

dependent upon the outcomes of all previous components, and many of these are difficult to measure, it becomes increasingly difficult to imagine how the effects of each will be separated.

Second, the concept of coping is fraught with a number of difficulties as well. As stated earlier since there is such a great deal of overlap between the constructs of appraisal and coping, it is difficult to determine how they can be separately empirically tested. In addition, since coping only occurs following demanding events, what type of behavior occurs when people are not confronted by such events? Because this behavior is not necessarily coping behavior in response to threatened goals, it must differ in some way that has yet to be determined. The findings regarding coping are perplexing. The type of coping strategy utilized is said to depend upon one's ever-changing appraisal pattern; therefore, a number coping strategies may also be used within a single encounter. In addition, coping has been found by Lazarus (1993) to be a mediator for emotional outcomes. This conclusion seems tenuous since other findings have shown that the type of coping strategy utilized may alternate throughout a stressful encounter. Finally, the issue of empirical measurement appears once again when one considers that the processes of denial and avoidance may or may not be within conscious awareness.

This leads to the final limitation of CMR Theory that will be discussed here, which is the lack of parsimony exercised by Lazarus in discussing the empirical evidence in support of the theory. First, Lazarus often extends correlational findings as proof of causal interactions within his theory. Although such findings are evidence that at some level an interaction does exist between constructs, it is not proof that this interaction is causal, or that it is not merely illusory. Second, Lazarus utilizes several constructs within

CMR Theory that are by their very nature not prone to empirical verification, either because they can not be operationally defined, or they are too interwoven with other constructs. Notwithstanding these limitations, CMR Theory is one of the most heavily researched stress theories. In the following section, a disparate interactional-oriented theory of stress, the Conservation of Resources Stress Theory (Hobfoll, 1989), will be critically reviewed and compared and contrasted with that of the Cognitive-Motivational-Relational Theory.

Resource Loss and the Conservation of Resources Stress Theory

Hobfoll (1989) developed the Conservation of Resources Stress Theory because of his observation that other theories of stress, including that of Lazarus, were tautological, and therefore, did little to move the study of stress toward a new understanding of the stress process. In addition, it was proposed that due to their tautology, these theories were impossible to reject. Conversely, Hobfoll asserted that the study of resource loss is more directly testable, and parsimonious than that of previous attempts to account for the stress process.

Hobfoll (1989) asserted that the study of resource loss provides a useful framework for examining adjustment following various types of life stressors by recognizing the importance of both individual appraisal and environmental (objective) characteristics. In this way, like CMR Theory, the COR Theory is thought to emphasize the person/environment transactions likely to result in psychological distress. Within this model, the causes of distress are viewed as objective environmental events, that can be measured quantitatively (Hobfoll, 1989). The amount of distress that these events actually bring about is then partially determined by the characteristics of the individual

experiencing them. Commenting on Hobfoll's (1989) article, Lazarus (1990) pointed out that past research, including his own, found a loss of reinforcers to account for nonbiological depression, but that this in no way means that loss was an antecedent to other types of stress. In his reply to this statement, Hobfoll (1990) asserted that studies have also not shown that loss leads *only* to depression. In fact, in her literature review of the life events literature, Thoits (1983) found that only those life events on life event lists that cause loss, result in an array of negative psychological outcomes.

Because COR Theory measures stress through the losses one encounters, Hobfoll, Dunahoo, and Monnier (1995) posited that as a general stress theory, COR theory could help to bridge the current gap in the stress literature by allowing us to examine the similarities and differences inherent in traumatic stressors, major stressors, and minor hassles. Under the COR Theory, each of these stressful life event types could be conceptualized and evaluated similarly. This is possible because the COR model posits that stressful life events do not cause distress in and of themselves; but that instead, it is the loss of valued resources often associated with such events that is psychologically distressing.

Basic Premises of COR Theory. The COR theory suggests that people strive toward personal growth and achievement. According to this theory, when not confronted with stressors, people strive to develop resource surplus to offset the possibility of future loss. In their review of the literature concerning the effects of social support on stress, Cohen and Wills (1985) concluded that the development of social resource surpluses was likely to bring about feelings of positive well-being. It has been suggested that this occurs because the stockpiling of resources acts to shelter people from future losses (Hobfoll,

1989). Following this line of thinking, the basic tenet behind the COR model is that individuals strive to obtain, retain, and protect that which they value. *Resources* are defined as "those objects, personal characteristics, conditions, or energies that are valued by the individual or that serve as a means for attainment of these objects, personal characteristics, conditions, or energies" (Hobfoll, 1989, p. 516). Although there is a danger of calling all valued things resources, there seems to be a broad but finite set of resources that are critical within a culture (Hobfoll & Lilly, 1993).

Unfavorable environmental circumstances are thought to bring about distress by threatening or depleting one's resources. Traumatic stressors or chronic major and minor life events may threaten one's self-esteem, economic stability, or the well-being of loved ones, thus causing some degree of distress. Hobfoll (1989) proposes that resource loss occurs in one of three ways. First, people can experience threatened resource loss, as when a city is threatened by flood waters, but no actual loss due the flood has yet occurred (O'Neill, Evans, Bussman, & Strandberg, in press). In this case, it is the anticipation of loss that causes distress in those threatened. Second, resource losses can be direct, as is the case when someone's home is destroyed by flooding. Third, resource loss can occur because of failures to receive anticipated returns, as might be the case for instance if an individual invests time, money, and effort into a college education, and is unable to secure employment following graduation. Thus, within the COR theory, *psychological stress* is defined as "a reaction to the environment in which there is (a) the threat of a net loss of resources, (b) the net loss of resources, or (c) a lack of resource gain following the investment of resources" (Hobfoll, 1989, p. 516).

Resources as Coping Mechanisms. Just as a loss of resources is thought to give rise to distress, individuals can also use their resources to compensate for loss, and thus moderate the effects of loss. Hobfoll (1989) proposes that individuals who have experienced resource loss through circumstances such as a natural disaster can offset that loss by employing resources that they already possess, such as savings or family support, or they can obtain resources from their environment, such as emergency assistance from a volunteer agency or the government. Conversely, during times of low stress, individuals often invest their love and affection to receive a return of the same; or they may invest their time and energy to gain other more highly prized resources, such as power and money (Hobfoll, 1989).

Other stress theories, such as the Cognitive-Motivational-Relational Theory, do not predict psychological or behavioral action when people are not confronted with stressors. On the other hand, COR Theory posits that because people strive to obtain, retain, and protect resources, when not currently confronted with stressors, people strive to develop resource surpluses in order to offset the possibility of future loss. When people develop resource surpluses, such as these, it has been found that they are likely to experience positive well-being (Cohen & Wills, 1985). In this way the "stockpiling" of resources is thought to work to moderate the effects of stressors on the individual. Another example of this can be found in a study by Holahan and Moos (1990) assessing the effectiveness of several proposed stress-resistant factors in randomly selected 424 adults living in the San Francisco Bay area. The final sample of 405 respondents (95.5%) also completed a follow-up survey one year later. Findings of this study included that greater personal and social support resources were related to better coping during stressful periods and better

psychological outcomes. This finding is consistent with the COR Model's concepts that having greater resources available in times of stress will lead to increased abilities to cope with the stressful situation, and psychological well being. A related finding of Holahan and Moos (1990) was that improved psychological functioning under low stress conditions was predicted by the resources themselves and not amount of coping. Thus, resources continued to be effective at predicting psychological outcome when coping was no longer an issue because of the absence of a stressor.

In his theoretical analysis of goal directed behavior as a source of stress, Schönpflug (1985) wrote that the process of coping was itself stressful because individuals must invest resources in order to cope. An example of this is when one calls on friends for support following an extreme stressor. If one does not expend the effort to call on such support, the support may never come. In this way, people must call on inner resources to cope with extreme stressors (e.g., sexual assault) or chronic stressors (e.g., car problems). Although these ideas fit very well with COR Theory, they do not fit as well with CMR Theory. Lazarus and Folkman (1984) placed coping resources and threat on opposite sides of a balance model; however, Schönpflug's hypotheses suggest that within stressful encounters, it is resources that are being threatened and it is again resources that must be utilized to offset loss.

Elements of the COR Model. Hobfoll (1989) proposed that although perceptions may be important in determining what types of events are stressful, that there must be some agreement on which events, or experiences of loss, are stressful. Without such agreement, it would be impossible to develop finite lists of major life events (e.g., Holmes & Rahe, 1967; Horowitz, Schaeffer & Cooney, 1974; Sarason, Johnson, & Siegel, 1978), or minor

life events or hassles (e.g., Brantley & Jones, 1988; DeLongis, Folkman, & Lazarus, 1988; Kanner, Coyne, Schaefer, & Lazarus, 1981). Hobfoll (1989) asserted that in developing a classification scheme for stressful events, we create a starting point from which the individual differences in reactions to stressful life events can then be compared. In an attempt to classify losses within his COR Model, Hobfoll (1989) developed four major categories of resources. Although to date no empirical evidence exists which can draw a clear distinction between these resource loss categories, they remain an integral part of COR Theory. Certain things are considered to be resources as long as they are valued or as long as they help in obtaining other resources (Hobfoll, 1989).

The first resource category proposed by Hobfoll (1989) is that of *personal characteristics*, which includes aspects and views of oneself (e.g., self-esteem, social skills) and of the world (e.g., sense of optimism, purpose). One example of how personal characteristics could lead to the attainment of other resources is that self-confidence could lead to increased job performance, which in turn could lead to greater income through a raise in pay. In this way, greater personal resources can lead to gains in other types of resources. Findings of a literature review by Cohen and Wills (1985) suggest that various personal resources such as personality traits and interpersonal skills help in stress resistance. This could occur because the utilization of admirable personal characteristics (e.g., mastery, social skillfulness, high self-esteem) could help people in times of stress by allowing them to acquire other resources such as social support.

The second resource category, *conditions*, includes the roles under which we live our lives that serve to define who we are (Hobfoll, 1989). They include such things as being a friend, being in a romantic relationship, or being a sibling. It has been suggested

that roles inherent to certain conditions (e.g., stable marriage, secure employment) are critical to an understanding of stress resistance (Pearlin, 1983). In their study addressing individuals exposed to flooding and dioxin contamination, Solomon and Smith (1994) assessed for a number of DSM-III diagnoses as well as health care utilization, family history of psychiatric disorder, health status, social support, life events, occupational and interpersonal functioning, and disaster exposure. These authors found that the stress brought on by disasters tends to disrupt roles such as those of the provider or nurturer within a family. In such a case, a provider who suffers a loss of employment, may find that his or her role can no longer be met in the same way, and a nurturer may find the increased needs of others in the family are well beyond his or her ability to satisfy (Solomon & Smith, 1994).

The third category of resources is *energies,* and includes such resources as time, insurance, credit, and knowledge. More than other resource categories, energies are best viewed for their value in aiding in the acquisition of object, condition, or personal resources (Hobfoll, 1989). Past studies have found that higher levels of education and income may be associated with lower levels of post-disaster psychological distress (see Gibbs, 1989 for a full review). This finding fits very well within the framework of COR Theory, in that those individuals with greater income and education (energy resources) would have increased access to various resources which could help them to meet the demands created by a disaster. Because of greater income, one could afford to pay for some expenses "out of pocket" and not have to rely upon outside sources for assistance. Likewise, with greater education, the victim is more likely to have the ability to problem solve through the unfortunate situation. Finally, the measures of education and income

are often used as measures of SES, and the association between low SES and increased levels of distress was shown very clearly by Gore, Aseltine, and Colton (1992). In this study, 1,208 high school students were surveyed concerning their current depressive symptomatology, past stressful events, and various demographic characteristics. Results indicated that children coming from low SES environments were more vulnerable to the effects of stressors and to decreases in social support.

The final resource category is that of *object resources*. Object resources are possessions with either functional or status value (Hobfoll, 1989). A home is thought to have value because it provides shelter, whereas a mansion has increased value because it also indicates social status and is thus under greater demand. In this way, objects are not only thought to be linked to basic survival needs, but also to socioeconomic status. Hence, if someone experiences a loss in object resources because of an event such as a disaster or the declaration of bankruptcy, assessing for that loss may be crucial in predicting psychological outcome. However, the fact that most resources can serve different functions for different people and within different situations, makes deciding which resource category to place them within a difficult one. This is likely the reason that, as stated before, no empirical evidence currently exists showing that these resource categories are in fact distinct.

The COR Model and Social Support. Social support is thought to be a resource which does not fit into any one category (Hobfoll, 1989). Rather, social support is said to be a resource to the extent that it provides or promotes the maintenance of other resources. Thus, social support is not viewed as being helpful to the individual in and of itself, but instead is it viewed as helpful to the extent that it leads to other resources such as

increased self-esteem or problem solving abilities. During times of extreme stress, such as those incurred during traumatic stressors, victims may need to call upon stockpiled social resources such as favors from friends. However, considering that resources are finite, those victims can only call on help so often before they tire supporters, depleting their resources (Hobfoll, Freedy, Lane, & Geller, 1990). Because social resources are finite, it is common for people to feel uncomfortable in asking for help, even when it is from friends and family members (Hobfoll & Lerman, 1988). Hobfoll et al. (1990) discussed that while conducting social support enhancement workshops, they noticed that most people subscribed to a so-called "social support double standard." They did not feel friends and family should be uncomfortable coming to them for help, but they felt uncomfortable asking for help from these same people. Those within the workshops reported that these concerns arose from not wanting to be a burden on others. Hobfoll also discussed that calling upon social resources may have a very different effect, by leading to greater intimacy with family and friends because this act demands self-disclosure and a display of trust. Thus, although asking for help from others can deplete supporters' resources, it can also add to supporters' personal and social resources by increasing their feeling of self-esteem and belonging. The bottom line is thought to be that if the costs do not exceed the benefits, everyone involved will feel comfortable with the social transaction (Hobfoll et al., 1990). This vacillating relationship between the utilization of social support and overall outcome is likely the reason that social support is considered a resource category within the COR Theory, since making use of social support resources is not always an appropriate strategy to mediate the effects of loss.

Loss and Gain Spirals. One early observation concerning resource loss was based upon a representative sample of 160 residents of New York City who when interviewed, reported at least one major life event in the past year. Findings of this study included that resources were not equally distributed among respondents, and those who lacked resources were most vulnerable to stressful events (Dohrenwend, 1978). COR Theory suggests that when resources are chronically threatened or depleted by environmental strains, options in dealing with the situation can be reduced, and psychological distress may result. Hobfoll (1991) posits that when resources are used to respond to a stressful situation, an individual may experience a depletion in these resources. When stress is chronic, which Hobfoll (1989) refers to as *loss spirals*, there is often an ongoing depletion of resources. A relevant example would be that when people first attend college, they will likely be apart from their primary support network (family). If a new social support network is not developed, this may in turn deplete personal resources, such as sense of self-efficacy or self-esteem. If a great deal of time is spent making new friends, who in turn are not supportive, the resources expended will have outweighed the benefits, leaving the person involved in a state of resource deficiency. This may in turn may lead to increased distress, which distracts the individual from studies, lowering his or her grades, and thus bringing about losses in a number of different areas.

Related to the concept of loss spirals, Hobfoll and Lerman (1989) found that social support for their sample of 107 mothers of chronically ill children diminished over time. Mothers were interviewed twice over a one year period. Findings included that the demands of the children's illnesses were better predictors of diminished social support than were the tendencies of individual mothers towards social support. Even for people in

such doleful circumstances, friends and family have only so much energy to invest in social and emotional support. Thus, losses in one area may later affect resources in other areas making it difficult to empirically determine which losses actually lead to other losses, and which ones were caused by actual external stressors.

Within loss spirals, resources which at first may have been adequate to combat threats become depleted. New loss events or threats then strike a weakened individual who no longer has the resources necessary to offset further loss. To the extent this cycle continues or where stressors are especially intense, loss spirals will increase both in the number of resources they affect and in the amount that they hamper those resources ability to offset distress (Hobfoll, 1991). An example of this process is discussed by Pearlin (1983), who cites several studies that have found that persistent strains on the roles one holds in life can reduce one's own sense of mastery and self-efficacy. Consequently, this type of degradation to one's sense of self will likely lead to the experience of distress.

Principles and Corollaries of COR Theory. Hobfoll and Lilly (1993) outlined the ways in which resources can be predicted to operate in various life circumstances. They begin by delineating the two basic principles of COR Theory. The first principle is that resource loss is more powerful, and more potent, than resource gain. Hobfoll and Lilly (1993) tested this principle in two studies assessing the impact of losses and gains in community and student samples. In these studies, they found recent and past losses to be significantly associated with psychological distress; however, such an association was not found for either recent or past gains. It was proposed that reason losses were more important in determining psychological outcome is that it is more difficult to prevent loss than to

obtain gain; and that loss is more resource depleting than gain is resource producing. In a finding similar to this, Lazarus (1984) found daily uplifts to have a much weaker effect on outcomes than daily hassles. The second principle is that one must invest resources in order to gain or prevent the loss of other resources. Thus, resources such as self-esteem or social skills must be utilized in order to offset possible loss (Hobfoll & Lilly, 1993). Although this principle has not been empirically tested, it makes sense that in attempting to build resources, one must take actions that place other resources at risk. A relevant example would be a person who attempts to build social resources by meeting new people, but in turn is rejected, thus damaging his or her self-esteem.

Hobfoll and Lilly (1993) further described four corollaries based upon these two principles. Since resource loss is discussed in only three of the four corollaries, the fourth corollary, which deals solely with resource gain, will not be discussed here. The first corollary is that those with greater resources are less vulnerable to loss and more capable of gain and, conversely, those with fewer resources are more vulnerable to loss and less capable of gain. Therefore, those with fewer resources are more likely to experience harsher consequences following life stressors. Hobfoll and Lilly (1993) predict that such individuals will likely experience heavier losses in the face of stress. If such people experience stressors that are chronic, their loss spirals are thought to occur faster and affect a greater amount of resources. Another way of stating this, is that when stressors are chronic, those people with fewer resources at their disposal will be negatively affected in more ways, and more quickly than those with greater resources. The second corollary states that not only are those with fewer resources more vulnerable to loss, but also that initial loss will beget future loss. Findings by Lane and Hobfoll (1992) suggest that losses

due to chronic illness contributed to patients' anger which, in turn was highly correlative with future supporter anger. Although the pattern of results from this correlational study must be interpreted cautiously, it could be interpreted as indication that losses in one resource area, lead to losses in other areas. Within the third corollary, those who lack resources are predicted to take a defensive posture in order to guard their resources. Guarding resources ensures that only minimal resources will be risked and open for possible loss; however, it also means that one's ability to gain resources is also less likely (Hobfoll & Lilly, 1993).

Applications of COR Theory. COR theory has been applied directly and indirectly within several studies, each attempting to account for the human reaction associated with stressful life events. However, before specific applications of COR theory are examined, it will be necessary to first discuss the measure created by Hobfoll, Lilly, & Jackson (1992) to measure resources, the COR-Evaluation (COR-E). The COR-E was designed to further the knowledge and applicability of COR theory while sampling from its four theoretical resource categories. The development of this questionnaire will now be described in some detail, including the numerous variations of this measure that have been created to date.

Development of the COR-Evaluation. The COR-E (Hobfoll, Lilly, & Jackson, 1992) was created in order to quickly measure people's resources and their loss and gain of those resources. Items were created for this instrument through a group process whereby several groups, of "varying composition" (p. 128), nominated resources that they judged to be important. Exactly how many members were within each group, and how group members were chosen is not specified. Each group then shared their list with

other groups until a single list was created such that no group selected additional resources that did not overlap with resources already on the list. A total of 74 resources were named in all. Hobfoll, et al. (1992) reported that a similar process was completed by a group of 30 researchers, and very few resources were nominated beyond those on the 74-item list. However, no further mention of these *additional* resources is made. A measure of resource loss and gain was then created by assessing individuals' recent losses, losses in the past year, recent gains, and gains in the past year on a scale from 1 to 7 (1 = little loss or gain, 7 = great loss or gain) for each of the original 74 items.

To test the validity of the measure, the COR-E was administered to two separate samples. The first consisted of 74 volunteers solicited from a church group and an evening community college. The second group consisted of 255 undergraduate students. Each group completed the COR-E and measures of emotional distress twice over a 2-week period. Hobfoll et al. (1992) hypothesized that there would be a moderately high level of test-retest reliability. This was because Hobfoll et al. hypothesized that if reporting was mainly influenced by mood, that there would be low test-retest reliability; and if individuals were reporting a more trait-like representation of their resources, that test-retest reliability would be high.

Results included that correlations for these two groups ranged from .55 to .64 for recent and past year losses, and from .64 to .67 for recent and past year gains (Hobfoll, Lilly, & Jackson, 1992). However, it is difficult to expect a great deal of change in resource loss or gain over a 2-week period. In the case where the participant is being asked about losses and gains over the past year, with the exception of events occurring within the past two weeks, those losses and gains should in theory be identical. This is a

great deal of fluctuation within a 2-week period for a measure that is thought to survey something as significant as the object, condition, energy, and personal resources that are thought to be utilized during periods of stress. It is therefore possible that the measurement of these resources could be at somewhat affected by the individual's current level of distress. Previous research has suggested that current levels of symptomology are associated with retrospective reports of exposure to stressors (Roemer, Litz, Orsillo, Ehlich, & Friedman, 1998). This methodological shortcoming is critical to this literature, and will be discussed further below.

The COR-E was also analyzed as to whether individuals were reporting a more general sense of loss or whether they were reporting more specific losses. To test this concept, the factor structure of this measure was analyzed. Hobfoll et al. (1992) hypothesized that if losses were general, then one main factor would emerge; however, if losses were reported more accurately, then several distinct factors would emerge. Five factors were found for the community sample; these included: 1) financial, 2) personal/support-I, 3) marriage/children, 4) personal/support-II, and 5) work support/accomplishment. Six factors were found for the student sample; these included: 1) personal/attainment, 2) financial, 3) time/financial, 4) work support/financial, 5) intimacy, and 6) marriage/children. The above factor labels were assigned by the authors who also listed the individual variables under each factor. The authors wrote that when comparing the sets of factors from the two samples, there was little congruence, but that these differences were due to developmental differences between the samples. This was thought to not only add support to COR Theory, in that people in varying situations would value resources differently; but it was also thought to indicate that the COR-E is

sensitive to such variables. In addition, although the items on the COR-E did not specifically fit into the four hypothesized resource categories, these results were still thought to support the construct validity of the measure in that no global factor was found.

Findings similar to these were reported by Lazarus (1984) in discussing prior research on hassles. He discussed how a sample of middle-aged participants were more concerned with economic issues, such as investments and taxes; Canadian professionals were concerned more with the high pressure commonly found in their lifestyles, such as not enough time to do things, and too many responsibilities; and college students were troubled by academic and social problems, such as meeting standards and being lonely. Lazarus concluded that he was confident that these patterns found in research on hassles reflected developmental and sociodemographic differences in the samples. He described that a number of other studies had found similar patterns in measures of life events (see Lazarus, 1984).

One major shortcoming of this analysis of the COR-E is the unusual utilization of test-retest reliability. A more appropriate use of test-retest reliability may have been to test people three times, once, two days following the original administration (testing for actual test-retest reliability), and a third time, one month following the original administration (testing for the non-trait-like representation of resources). The way in which this analysis was conducted, makes interpretation the results difficult at best. Also, one would think that given such results, that COR Theory would have been altered to account for the finding that the COR-E has not been shown to reliably measure the four resource factors hypothesized by COR Theory. However, no such changes were made,

and it does not appear as though they are forthcoming. Several subsequent studies, utilizing modified versions of COR-E, have manually split content items into the four proposed resource categories for use as subscales within data analysis.

Freedy, Shaw, Jarrell, and Masters (1992) shortened the original 74-item measure to 52 items, hoping to measure loss specific to natural disasters, while continuing to sample from the four resource categories proposed by the COR Model. However, the exact methodology used to create the 52-item COR-E is not discussed anywhere in the literature, and no psychometrics for this measure are available. In another study, Freedy, Saladin, Kilpatrick, Resnick, and Saunders (1994) again shortened the measure, this time to 19 items. In this study, the 52-item measure was given to 418 university employees, who lived in the Charleston area, two months following Hurricane Hugo (Freedy et al., 1992). A factor analysis of this data identified four factors, but no other information is available on these factors. Based on a hierarchical multiple regression analysis, two of these factors accounted for significant portions of unique variance in psychological distress scores. This 19-item version of the original COR-E is comprised of the items from those two significant factors. Exactly which factors comprised this version of the COR-E is not known, with the exception that the 19-item version included items that have been placed within the personal, condition, and energy subscales of other studies utilizing the COR-E.

Evans (1997) again modified the 52-item version of this measure for use in a telephone interview format. This version of the questionnaire was chosen because of its development specifically for use in disaster situations. Although past factor analysis had not confirmed the four resource categories hypothesized by the COR Model, attempts

were made to equally sample from each of these four proposed categories while shortening the questionnaire to 32 items. In this way, it was hoped this measure would conform to past alterations of the COR-E. Factor analysis from a previous study (Smith & Freedy, 1996) utilizing the 52-item COR-E were examined to determine the internal consistency of each subscale (J. R. Freedy, personal communication, June 22, 1996). The eight items with the highest loadings on each of COR's resource categories were retained for the final version of the scale. No item with a reliability score below .40 was retained as part of the final scale. When alpha values for items were nearly identical, the nature of the disaster was considered, and items which appeared to be more relevant were retained.

As was discussed earlier, since the COR-E was originally found to be quite sensitive to developmental level and life situation, authors since that finding have modified the questionnaire to better suit the population under examination (e.g., Evans, 1997; Freedy, et al., 1994; Freedy, et al., 1992). If the population under investigation was involved in a disaster, then items were included that were of greater utility in that situation (e.g., vegetation on your property, clothing, home contents). If due to data collection restrictions a shorter questionnaire was desired, then a shortened version was developed that continued to reliably assess loss from the four theoretical domains of COR theory. This strategy of altering the COR-Evaluation to suit the study will be discussed further when shortcomings of this model are considered, and again when the proposed measures for the current study are described.

The COR Model and Traumatic Life Events. Traumatic stress is thought to entail a rapid loss of resources (Hobfoll, Dunahoo, & Monnier, 1995). Hobfoll and his colleagues (1995) proposed that the speed at which resources can be lost is due to the fact

that traumatic stressors attack people's most basic values (e.g., the world is a safe place, good things happen to good people), often occur unexpectedly, make excessive demands, are outside of the realm for which resource utilization strategies have been developed, and leave a powerful mental image that is easily evoked by cues associated with the event. The excessive demands of traumatic events are thought to be such that, at least initially, no amount of resources could prevent a severe reaction to the stressor. Such an effect was found in a study discussed earlier in which 94% of rape victims were found to meet symptom criteria for PTSD within two weeks of their assault (Rothbaum, et al., 1992). Hobfoll et al. (1995) proposed that losses of this nature typically cross all resource domains including object, personal, condition, and energy resources. Further, although resources are needed to offset loss, the resource reservoir may now be depleted, making the person incapable of successful stress management (Hobfoll, 1991). The ability of individuals who experience traumatic events to cope with such loss may reside in their ability to implement alternate resources such as social support in order to augment experienced losses.

It has been suggested that both the subjective and objective components of the traumatic stressor (which are also thought to be addressed within COR Theory) may be particularly important in determining adjustment following traumatic stress (Green, 1990). First, subjective risk factors, such as the person's perceptions of the event, are typically associated with psychological distress (Foa, Steketee, & Olasov-Rothbaum, 1989). Second, objective risk factors, such as injury, property loss, or loss of employment, have also been found to increase levels of distress following such events (Shore, Tatum, & Vollmer, 1986).

The small literature pertaining to COR theory is centered in the application of this model to instances of traumatic stress. Various versions of the COR-Evaluation have been applied to several types of traumatic stress, testing their ability to predict post-trauma distress. Resource loss, as measured by these questionnaires, has thus far been found to be a risk factor for general psychological distress among individuals who were exposed to: Hurricane Hugo (Freedy, Shaw, Jarrell, & Masters, 1992), a life threatening breathing disorder (Lane & Hobfoll, 1992), the Sierra Madre earthquake (Freedy, Saladin, Kilpatrick, Resnick, & Saunders, 1994), and the Great Midwest Flood (Smith & Freedy, 1996). Lane and Hobfoll (1992) also found resource loss to be predictive of patient anger; while Smith and Freedy (1996) found it to be a predictor of physical symptomology and negative affect. COR theory has been utilized, without the use of the COR-E, in studying the relationship between the environment and individual adjustment following hurricane Hugo (Kaiser, Sattler, Bellack, & Dersin, 1996).

This discussion of applications of COR theory to traumatic life events will begin with those studies utilizing the COR-E. The first such study was an application of the COR Theory to distress experienced by individuals living in Charleston, South Carolina in 1989 who were affected by Hurricane Hugo. Freedy, et al. (1992) mailed questionnaires to 1200 faculty and professional staff of the Medical University of South Carolina in Charleston, SC, eight weeks after the hurricane. Four hundred ninety individuals returned the survey for a 40.8% return rate. Resource loss was assessed using the 52-item COR-E; while psychological distress was assessed using the General Severity Index of the Symptom Checklist 90, Revised (Derogatis, 1983). Coping behavior was assessed via the 60-item COPE inventory (Carver, et al., 1989). Resource loss was found

to be positively associated with psychological distress. In fact, resource loss was more important than demographics (gender, age, race, marital status, education, annual household income) or coping styles in predicting psychological distress. Resource loss, as measured by the 52-item COR-E, accounted for 34.1% of variance, whereas coping strategy, as measured by the COPE, and demographics accounted for 7.9% and 9.5%, respectively.

When analyzing the above results, the obvious methodological shortcomings of this study must be taken into consideration. First, the study's design is cross sectional in nature making it difficult to draw any distinct conclusions from the results. Second, the reports concerning coping behavior and resource loss were all retrospective, and thus prone to perceptual distortions. The authors attempted to minimize this bias with a relatively small retrospective time frame of eight weeks for resource loss and coping behavior, and seven days for distress. This study also had a poor *completed questionnaire* response rate (34.8%). Because of this low response rate we can not be sure that the obtained sample is representative of those affected by the Hurricane. One last shortcoming of this study, that will also apply to other studies using the COR-E, is that coping ability and several demographic characteristics can be conceptualized as resources as well. The ability to utilize the appropriate coping strategy in a given situation, and having more education and greater income would seem to be good personal and energy resources to possess.

Lane and Hobfoll (1992) examined how loss impacted patient's anger, and how this anger might limit the availability of social resources. The COR-E was administered along with measures of anger (State-Trait Anger Scale; Spielberger et al., 1985), hostile

behavior (Anger Expression Scale; Spielberger, et al., 1985), and physical symptoms (Bronchitis and Emphysema Symptom Checklist (Kinsman, et al., 1983) to a sample of 78 patients suffering from dyspnea, a severe breathing disorder that results in loss of lung capacity and a feeling of suffocating. Participants in this study had less than 56% of the normal forced expiratory volume for a person of their age, race, height, and sex. Also, 63% of the participants used oxygen on a regular basis, and 7% of the original sample expired between the initial interview and follow-up.

Responses to the above questionnaires were obtained from the patients, and responses to the same measure of anger, as well as ratings of the patients adjustment (Katz Adjustment Scale-Relatives' Rating Inventory of Social Adjustment; Katz & Lyerly, 1963) were obtained from a significant other designated by the patient. Questionnaires were administered twice during a 3-month period. Results indicated that after variance due to symptom severity at time 1 was partialled out, patients' experienced resource loss accounted for a significant portion of the remaining variance in anger scores. That is, as patients experienced more loss, they also expressed more anger. It was hypothesized that since this loss was not due to patient symptoms, it was likely secondary loss related to possible by-products of dyspnea such as loss of self-esteem, loss of income, or increased physical illness.

It was further hypothesized that the patients angry behavior would have other deleterious effects, in that such behavior may cause other losses, leading to loss spirals (Lane & Hobfoll, 1992). Utilizing correlation and hierarchical multiple regression, the authors found that patients' anger and irritability had both correlational and prospective effects on supporters' anger, in that as patients' anger and irritability rose, supporters also

reported more anger. One possible effect of this interaction could be the alienation of the patient's primary supporter. If this did occur, then this cycle of loss could lead to increased anger, that would continue to negatively affect the patient's level of social support, thus leading to further loss. Although both the correlational and prospective results are in the direction that one would assume, it is impossible to know with certainty that patient anger was only caused by losses related to their illness. Similarly, we can not say that patient anger caused supporter anger or withdrawal. Other explanations may include that events not measured in this study, like health care costs, caused distress and anger in both patients and supporters. However, this study also contains several important strengths including a longitudinal design, objective measures of loss (symptom severity), and high return rate (92%) for follow-up. Of the seven people who did not take part in the follow-up, six had expired since the initial interview.

Freedy et al. (1994) examined the predictive power of the COR-E following the Sierra Madre earthquake. Their sample was drawn from a larger study concerning the psychological impact of the Sierra Madre earthquake. This parent sample (n = 404) was a household probability sample of adults affected by the earthquake acquired by using random digit dialing. The final sample included the 229 adults who were interviewed regarding earthquake-related resource loss four to seven months following the earthquake. The reason that nearly 44% of the parent sample was excluded from this study is not known. However, tests comparing the study sample with those excluded showed that they were comparable on all demographic variables except ethnicity, with the study sample containing a significantly larger number of Hispanic people and smaller number of Caucasian people than the excluded group.

Resource loss was assessed using a 19-item version of the COR-E. This scale was created through a factor analyzation of the 52-item version of the COR-E (Freedy et al., 1992). For a thorough description of this process, please see the section entitled "Development of the COR-Evaluation." Psychological distress was assessed using a 9-item symptom checklist developed by the authors with participants reporting on symptom intensity during the past week. Several demographic characteristics (age, gender, income, education, ethnicity, and marital status), history of traumatic event exposure, history of low magnitude event exposure, and earthquake-related life threat were also assessed. Analysis using hierarchical multiple regression showed that resource loss predicted 11.2% of variance in psychological distress over that above the effects of demographics, trauma history, low magnitude event exposure or earthquake-related life threat. Resource loss accounted for a large portion of unique variance (38.2%), as measured by beta weights, than did history of low magnitude events (22.3%). It therefore, appears that there is at least some predictive overlap on these two measures.

Although these findings suggest that resource loss is an important variable, this study also contains many of the same shortcomings as the study conducted by Freedy et al. (1992). This study's design is cross sectional in nature making it difficult to draw direct conclusions. Second, the time frames for which variables were assessed vary from one week for psychological distress, to since the earthquake for resource loss, to past year for low magnitude events. This variance in amount of retrospective report means that each variable will be affected by perceptual distortions to a different degree, making interpretation difficult. Third, as stated before, several demographic characteristics as well as other variables, such as a history of prior stressors, could be conceptualized as

resources as well. Fourth, there is no validity or reliability information on the 9-item distress outcome variable utilized in this study. One last shortcoming of this study is the lack of explanation regarding the reason that only 56% of the original sample was used in this study. This may, in turn, negate one of the major strengths of this study, the use of random sampling.

In another study, the COR-E was utilized to predict psychological distress and physical symptoms following the Great Midwest Flood (Smith & Freedy, 1996). The sample ($\underline{n}$ = 131) was a subset of a larger sample ($\underline{n}$ = 209) of people living near flooded portions of the Missouri or Mississippi Rivers in Missouri and Illinois. Participants were originally contacted six weeks after the crest of the flood by representatives from local churches who were instructed to distribute questionnaires to adults in their community who lived in flood affected areas. Of the 490 questionnaires originally distributed, 209 were returned for a rate of 42.6%. The final sample included 131 members of the original sample who also responded to a second questionnaire distributed four months after the initial questionnaire, resulting in a return response rate of 65.5%. Univariate analyses to test for differences between the original sample and the final sample of 131 respondents were conducted for the demographic variables of age, education, gender, marital status, and education. No significant differences were found on demographic variables between these two samples.

All of the following variables were assessed in the initial survey; however, only the resource loss, life threat, and outcome variables were assessed in the follow-up survey. Resource loss was assessed using the 52-item COR-E (Freedy et al., 1992). Psychological distress was assessed using the General Health Questionnaire (GHQ-12; Goldberg, 1972).

The Physical Symptom Index (Moos, Cronkite, & Finney, 1990) was used to measure stress-related symptomology. The Positive and Negative Affect Scale (PANAS; Watson, Clark. & Tellegen, 1988) was used to measure how participants felt about the flood. Also assessed were perceptions of threat to self and family, as well as several demographic characteristics (age, gender, income, education, ethnicity, and marital status). All hypotheses within this study were related to the ability of the COR-E (time 1) to predict outcome variables (time 2), even after the variance due to time 1 outcome variables, demographics, and life threat had been removed. Findings included that resource loss (time 1) significantly predicted psychological distress, physical symptoms, and flood-related negative affect (all assessed at time 2). Resource loss at time one was also found to be more important than the other time one variables of demographics, flood experience, and life threat to self or family in predicting psychological distress at time two.

Again, this study contains many of the same shortcomings as prior studies testing the COR Model. First, several demographic characteristics as well as past flood experience could be conceptualized as resources, making it difficult to determine where they should be included within a model of stress occurrence. Second, although univariate analyses on demographic variables revealed no significant differences between those who were and were not included within the final sample, with this study's low return response rate (66%), it is suspect whether there may have been other important differences between these two groups which may have led respondents not to return. Third, there was a large time lag between the crest of the flood and the follow-up survey at six months post-flood. This large span of time may have resulted in reporting distortions through

retrospective memory. Fourth, although this study utilizes a prospective design, it does not make use of this strength in the greater part of its analyses. It only does so in the final regression analysis predicting psychological distress at time two with predictor variables assessed at time one. Fifth, this study fails to include predictor variables assessed at time two (resource loss) that may have also been of interest in further analyses. Finally, the potentially biased method by which possible respondents were sampled for this study makes the generalizability of its findings difficult.

Like Freedy, et al. (1992), the final study in this review to directly apply the COR Theory to a traumatic life event did so in the wake of Hurricane Hugo. However, unlike this previously discussed study, Kaiser, Sattler, Bellack, and Dersin (1996) did so without the use of the COR-E. The sample in their study included 193 students of introductory psychology who completed the questionnaires one month following the disaster. The outcome variable of psychological distress was measured using a 31-item questionnaire designed by the authors to measure psychological distress and somatic symptoms based on the criteria for posttraumatic stress disorder. Predictor variables were measured by means of questionnaires including the 29-item Orientation to Life Questionnaire (Antonovsky, 1987), a measure of sense of coherence, the State-Trait Anxiety Inventory (Spielberger, Gorsuch, & Lushene, 1970), the Beck Depression Inventory (Beck, 1967), the Multiscore Depression Inventory (Berndt, 1986), the demographic variable of gender, and a 20-item questionnaire designed by the authors to assess property loss, inconvenience, and injury potential due to the hurricane.

Findings of this study included that loss due to the hurricane and depression were better predictors of the authors' 31-item measure of PTSD symptomology than were

sense of coherence and anxiety. The fact that depression correlated highly with this measure of PTSD is not surprising due to the large amount of content overlap on the two measures, as can be seen by examining the items on the author-created measure of psychological distress. This is likely the reason that this measure predicted a larger amount of unique variance (β = .37) in PTSD scores than did resource loss (β = .26). Second, the reason that resource loss was still significant was likely because this author-designed measure of loss is confounded with life threat since it contains items assessing for injury potential. Third, like other personal-resource-like variables, sense of coherence could be conceptualized as a resource, leaving it confounded with resource loss. Fourth, the direction of the effects found in this study can not be determined due to its correlational nature. Fifth, this study did not utilize validated or reliable measures for either resource loss, or for the outcome variable of psychological distress. Sixth, as discussed earlier, the authors chose to use two measures of distress (depression and anxiety) within their regressional analyses to predict another measure of distress (psychological distress based on PTSD symptoms) with all distress measures being taken at the same collection period. Finally, participants in this study were not selected randomly, introducing possible sampling bias into the study.

Each of the five studies utilizing the COR model in traumatic life events have found it to be a useful tool in investigating the relationship between trauma exposure and individual adjustment. Together, these five studies have found resource loss to be effective in predicting various types of psychological, physical, and emotional distress following traumatic life experiences. Resource loss has also been found in at least one study to be more predictive of trauma outcome than have a number of demographic

variables, history of trauma or life threat, and coping style. A limitation of the findings from these studies is that several variables of interest (e.g., income, education, sense of coherence, coping) may be confounded with the COR-E, since they can also be thought of as resources. Another problem arises when the predictive abilities of these individual variables are compared with that of the COR Model. Since they can each be thought of as resources, conceptually, they should not individually predict variance in scores of distress as well as an expansive theory such as the COR Model. Another limitation involves the measurement of resources with the COR-E. Although earlier studies have shown modest psychometric properties for the COR-E (Freedy, et al., 1994; Hobfoll, et al., 1992), no study has yet been published finding evidence for the four theoretical resource categories proposed by COR Theory. The fact that factor analyses of various versions of this questionnaire have not yielded theoretically stable factors has not been addressed in any detail within the literature, and instead is explained as evidence of the developmental sensitivity of the measure (Hobfoll, et al., 1992). Finally, although the COR Theory is a general stress theory, it has been mostly utilized within instances of traumatic stress. As will be discussed within the next section, very few studies exist which test the utility of the COR Model within samples not affected by possibly traumatic events.

The COR Model and Major and Minor Life Events. Hobfoll (1990) suggested that the COR model may be helpful in explaining why minor life events or hassles can be stressful. He theorized that repetitive hassles may degrade an individual's resources causing loss. Lazarus and Folkman (1984) suggest that ongoing hassles can lead to viewing an increased number of such events as stressful. Thus, the experience of hassles, may lead to a higher likelihood of hassles in the future, in turn making the likelihood of

resource loss greater. In this way, within COR theory, it is not the minor hassles that are stressful, but instead it is the loss brought about by ongoing or chronic hassles which causes distress (Hobfoll, 1991).

One very interesting finding of Freedy et al. (1994) was that history of low magnitude event exposure predicted a greater amount of variance in psychological distress than did the 19-item COR-E. In this study "history of low magnitude events" was assessed by asking respondents if they had experienced 8 specific events in the past 12 months, including such things as: death of a spouse or mate, serious illness/injury, and problems at work. These events are commonly found in "major" life event inventories such as the Life Experiences Survey (Sarason, Johnson, & Siegel, 1978). The "yes" responses to these events were then added up, giving each respondent a score from 0 to 8. However, the reason that low magnitude events predicted a larger amount of variance was because they were entered first within the hierarchical regression equation. When assessing the unique variance in psychological distress attributable to each of these variables (low magnitude event, β =.22; resource loss, β =.38), one finds that it is the COR-E that accounts for the greatest amount of unique variance in distress, not low magnitude events.

Two studies have directly assessed the ability of the COR-E to predict distress in non-life threatening circumstances. The first such test of the COR-E occurred during the chronic flooding of Devils Lake, located in North Dakota (Evans, 1997). The flooding of Devils Lake was unique for two reasons. First, in the four-year history of this natural disaster there had been no discernible low point, leaving those involved in the flooding

suspended in a stage of anticipation, waiting for the next rise in water level. Second, due to the slow rise of lake levels, there had been very little threat to life.

The parent sample in this study was a stratified random sample of 169 adults living in the Devils Lake drainage basin. This parent sample contained two subsamples: 105 residents of the *city* of Devils Lake, and 64 people living on the *lakeshore* of Devils Lake. The survey took place before Devils Lake crested that year because those living nearest to the lake were in continued danger of rising waters affecting their property and homes. To acquire a sample that included those who had been most affected by the flood, only those participants in the *lakeshore* sample who answered "yes" to the question, "Do you own or live in a house that has been threatened by flooding?" (51) were selected. A comparison group of people who were least affected by the flooding, was created by choosing only those participants in the *city* of Devils Lake sample who answered "no" to the same question (83).

Participants were asked questions assessing the demographic characteristics of age, gender, marital status, and household income. Resource loss was assessed using a 32-item scale, modified from the 52-item Resources Questionnaire used in two earlier studies (Freedy et al., 1992; Smith & Freedy, 1996). The 32-item version of the Resource Questionnaire was revised for use in a telephone interview format, while attempts were made to ensure the independent validity of each of the four scales by sampling from the four resource categories proposed by the COR model (for a thorough description, please see the section entitled "Development of the COR-Evaluation"). Flood-related life threat was assessed via two questions asking if the participants had ever feared for their lives or the lives of family members or feared serious injury to the same due to the flooding. Both

questions have been used in previous studies of disaster (Smith & Freedy, 1996; Freedy et al., 1994). The following three outcome variables were assessed in this study. Physical symptoms were assessed via the 12-item Physical Symptom Index of the Health and Daily Living Form (Moos et al., 1990). Psychological distress was assessed via the 12-items General Health Questionnaire (GHQ, Goldberg, 1972). Flood-related negative affect was assessed via the 10 negative items from the Positive and Negative Affect Schedule (PANAS, Watson, Clark, & Tellegen, 1988).

Results obtained in this study included that the four variables of resource loss were of greater importance in accounting for variance in psychological distress, physical symptoms, and flood-related negative affect than traditional predictors such as demographic variables and life threat. Also, higher levels of resource loss were found to be associated with clinically significant elevations in psychological distress. Finally, the COR-E maintained its ability to predict distress in this disaster, without the occurrence of high life-threat or discernible low-point, like that found in earlier studies utilizing the COR Model in an earthquake (Freedy, et al., 1994), hurricane (Freedy et al., 1992; Kaiser et al., 1996) and flash flood (Smith & Freedy, 1996).

Although the findings of this study are important in terms of COR Theory, it was not without its share of limitations. First, data were of a cross sectional design. Attempts were made to improve the problems inherent in this type of design by including a comparison sample. However, the effects of having merely correlational data can not be completely corrected by the addition of a comparison group. Also, because data were not of a longitudinal nature, the authors were unable to closely examine the effects of chronic loss within this chronic disaster. Finally, there was a small number of participants within

each cell in some analyses due to the small number of people in the lakeshore population, and the low response rate in the city population. Each of these limitations pose interpretation and generalization problems for this study.

The second study utilizing the COR-E to predict distress within non-traumatic natural disaster involved the threatened flooding of Fargo, North Dakota (O'Neill, Evans, Bussman, & Strandberg, in press). Faculty and staff members of a midwestern university were surveyed two weeks prior to the cresting of a major flood. Of the 1732 questionnaires that were distributed, 377 were returned prior to the flood crest. The survey included questions assessing the demographic characteristics of age, gender, marital status, education, and income. Anticipated resource loss was assessed using a 32-item scale, modified from the 52-item Resources Questionnaire used in two earlier studies (Freedy et al., 1992; Smith & Freedy, 1996). The 32-item version of the Resource Questionnaire was revised for use in a prior study (Evans, 1997). However, in this study participants were asked to rate the extent they *anticipated* a loss of each resource due to the flooding. In this way it was hoped that this questionnaire would assess the level that participants were experiencing *threatened* resource loss. Flood-related life threat was assessed via two questions used in previous studies of disaster (Evans, 1997; Freedy et al., 1994; Smith & Freedy, 1996). Physical symptoms were assessed via the 12-item Physical Symptom Index of the Health and Daily Living Form. Psychological distress was assessed via the 12-item General Health Questionnaire (GHQ, Goldberg, 1972). Flood-related negative affect was assessed via the 10 negative items from the Positive and Negative Affect Schedule (PANAS, Watson, Clark, & Tellegen, 1988).

Results obtained in this study included that anticipated resource loss was found to be highly predictive of negative affect, physical symptoms, and psychological distress after having accounted for the variance due to demographics and life threat. The authors felt that these findings extend the applicability of the COR model to predicting distress during the course of a disaster, not just following one. When a potential for loss of valued resources exists, this can cause considerable distress; and those individuals who anticipate the greatest amount of loss, tend to report as much distress as people who have already experienced disaster-related losses (O'Neill, et al., in press).

One obvious problem with this study is the generalizability of its findings. The sample included university faculty and staff, who are likely very different than the general population in that area. Second, the return rate for questionnaires in this study is only 22%, again making it likely that this study contains some sampling bias. Finally, as is the case with many other studies utilizing the COR-E, the data here are of a cross sectional nature, making the interpretation of relationships among variables difficult.

Limitations of these two studies aside, they are both very important in terms of COR Theory. First, each study tested the COR Model's ability to predict distress in situations with a minimal amount of traumatic stress. In both disasters, there was ample time to protect one's self and loved ones from rising flood waters. This was confirmed by asking participants if they were fearful for their life or the lives of loved ones due to the flooding. Second, by comparing mean scores obtained on the General Health Questionnaire (GHQ) with those found in other studies, Evans (1997) found that a major life event that is chronic in nature (chronic flooding) can be just as psychologically distressing as traumatic life events (e.g., flash floods, earthquakes, hurricanes). Third,

O'Neill, et al. (in press) confirmed the COR Model's ability to predict distress in circumstances where resources are not actually experienced, but are merely threatened.

Conclusions. So, where does stress come from, an experience or a perception? This is the question that most divides these two theories of stress. Hobfoll (1989) wrote that even in circumstances where perception is important, "normative tendencies" regarding the evaluation of resources and what constitutes a loss, are thought to guide our assessment of the environment and ourselves. I think that what Hobfoll means by this, is that most people evaluate resources and loss events similarly, and that therefore it is most important to assess for the occurrence of those events or the possession of those resources. Alternatively, within the CMR Theory of stress, there may be a clear event beginning the cycle of stress, but once the cycle begins, this event can be altered perceptually in a number of different ways (Lazarus & Folkman, 1984). In this way, people can be seen as constantly rewriting their own history to suit their current needs and goals.

For this reason, it is difficult to understand what exactly the "environment" component in Lazarus' person/environment transactional model is, when what is called "environment," is actually an individual's appraisal or perception of the environment. It is for this reason that Hobfoll and others have criticized this model for its circularity (Dohrenwend et al., 1984; Hobfoll, 1989), by overemphasizing perception and removing the environmental contingencies present in stressful situations. In this way, it is thought that appraisal models confound the cause of distress (environmental demands) with the effect (coping responses and psychological distress), making it impossible to clearly determine cause and effect relationships. Therefore, although Hobfoll has been criticized for ignoring individual differences inherent in the value-appraisal of resources, this lack

of focus on such cognitive components leaves COR Theory open to increased empirical testing and possible rejection.

Lazarus (1998) makes a large point of contrasting the terms interaction and transaction, stating that interaction is more common among the behavioral theories, and that it treats people as passive creatures who merely react to environmental demands. Lazarus goes on to say that transaction, instead, is thought to explain the "relational meaning constructed by the individual" (p. xiv). However, it would appear as though the concept of transaction, as defined by Lazarus, applies more to Lazarus' concept of coping, since it is unable to account for behavior unless the individual is being acted upon by some outside force. On the other hand, COR theory states that people attempt to develop increased resources in times of no stress, so that they may better offset future loss events. In this way, COR Theory is more applicable to studying not only the person/environment transactions during times of stress, but also the transactions which occur prior to and following stressful life events. In the future, by studying all stages within the experience of stress, we will be better able unravel the complex transactions within the stress process. Because of this, I propose that these person/environment transactions need not be explained in terms of higher level abstractions, but that they instead can be understood in terms of loss and gain within that relationship.

At this time, I would like to reiterate some of the major shortcomings of Lazarus' model. Although this is also one of the most heavily researched theories of stress, its constructs are overlapped in such a way that it builds a multitude of possible reactions, which in turn could change because of the effects of those reactions on the individual. The extreme complexity of this model makes it difficult to conceive how it adds to the

prediction of individual outcome following a stressful life event. Also, causality within this model's complex interactions of emotional, cognitive, and behavioral components is often implied without any direct evidence; and it is difficult to imagine how one would go about measuring these concepts in such a way as to prove or disprove causality. Finally, Lazarus exerts little parsimony in discussing the empirical evidence in support of his theory. In doing so, he could fail to entertain alternate hypotheses that may better account for findings, and lead to improvement of this theory.

In conclusion, a major benefit of COR Theory is that it maintains the ability to predict individual behavior without the occurrence of a stressor, thus, allowing increased flexibility in examining the stress response. In addition, because of its lack of focus on cognitive constructs, COR Theory lends itself to rejection more so than other theories of stress. However, at present there is a paucity research attempting to do so; and even more seriously, several of COR Theory's major tenets remain empirically untested. The goal of the current study was to add to the literature empirically examining the COR Model while testing several previously untested tenets of this theory.

Present Study

Researchers have conducted a wealth of studies utilizing the framework of major and minor life events. These constructs have been examined individually for their effects on psychological distress; and they have also been utilized simultaneously to examine the possible mediator effects of one on the other. As described earlier, one shortcoming of COR Theory is that there is a paucity of research addressing its abilities to predict distress in comparison to other complex models that have also been found to be predictive of distress. To this author's knowledge, such a comparison has been made only once by

Freedy et al. (1992). As you may recall, these authors found that among hurricane victims, resource loss was more important than the mediating variable of coping styles in predicting psychological distress.

Another shortcoming of the literature pertaining to COR Theory is that the greater portion research directly supporting this model of stress has taken place within potentially traumatic events (Freedy, et al., 1994; Freedy, et al., 1992; Lane & Hobfoll, 1992; Smith & Freedy, 1996). Because the COR Model was created as a general theory of stress, not specific to traumatic life circumstances, it is imperative that its applicability to other forms of stress, such as major and minor life events, be examined and verified.

Kessler (1983) suggested that the nature of stressful events and the differences in how people react to them may be best accomplished through the longitudinal study of such events. Analogously, it was noted earlier in this proposal that the paucity of such prospective studies is a major problem with theories of stress and trauma. The majority of the literature in support of COR Theory is no exception. Most studies utilizing COR Theory are not longitudinal in nature, and instead make use of subjective, retrospective reports, making the reliability of many findings questionable.

To assess the temporal stability of retrospective reports of war-zone exposure, Roemer, Litz, Orsillo, Ehlich, and Friedman (1998) obtained estimates of the frequency of war-zone exposure to stressors twice from 460 soldiers who served in Somalia. Interviews were first completed within one year of their return to the United States, and follow-up phone interviews were completed 1-3 years later. Respondents were found to demonstrate a significant increase in their frequency reports from initial to follow-up assessment; and this increase was uniquely associated with an increase in severity of

PTSD symptomology. These biases in retrospective accounts of war-zone exposure were hypothesized to be due to systematic biases in information-processing that have been found in previous studies to lead to higher frequency estimates of negative or threatening events. However, these findings may have limited applicability to studies assessing the utility of the COR Model, since assessing for resource loss does not necessarily involve the recall of traumatic events. Also, participants in the Roemer, et al. (1998) study were asked to recall events over a 1-3 year time period, whereas in most studies utilizing the COR Model, the recall time period for losses has been less than one year. Therefore, although the findings of Roemer et al. (1998) are critical for the long-term retrospective study of traumatic life events, these findings may be less applicable to current research concerning COR Theory.

Since of the original conception of COR Theory, a number of principles and corollaries based on COR theory have been developed to further expand the basic theory. However, because most of the studies examining COR Theory collect data at one time period only, or at two time periods in close proximity, the directionality of the association between stressful life events and resource loss can only be inferred. Studies utilizing more long range, longitudinal designs are needed to address such issues. In addition, this study wished to improve on the low return rates cited by several other studies utilizing the COR-E (22%, O'Neill, et al., in press; 66%, Smith and Freedy, 1996; 41%, Freedy et al., 1992).

This study concerned the effects of resource loss and expected resource loss on distress in a sample of undergraduate students from a midwestern university. This was the first study where prior loss and expected loss were assessed simultaneously. It was also

the first study where the effects of chronic major and minor stressors were empirically assessed in terms of COR Theory; and it was one of the few studies to empirically address the differences between major life events and those events that are traumatic in nature. Finally, two of the COR corollaries outlined by Hobfoll and Lilly (1993) were tested empirically through data collected at two separate time periods.

This study attempted to replicate the following three hypotheses found in earlier studies:

1. There will be a strong positive correlation between resource loss and psychological distress and PTSD symptomology both at intake and follow-up.

2. The expectation of a greater amount of resource loss will be positively correlated with psychological distress and PTSD symptomology at intake.

3. In addition to the first hypothesis, which addresses the correlation between resource loss and psychological distress, prior studies have also found that higher levels of resource loss are associated with clinically significant elevations in psychological distress. That is, when the COR-E is manually split into the four proposed resource categories, the more resource categories (0 to 4) in which people have experienced a high degree of loss, the greater the likelihood that they will experience clinically significant distress.

The following untested hypotheses are based on COR Theory, and follow from the basic principles outlined by Hobfoll and Lilly (1993):

4. Higher levels of resource loss at intake will be associated with significant elevations in expected resource loss at intake. This hypothesis follows from COR corollary three which suggests that those who have lower resource reserves will take a

defensive posture towards the investment of their remaining resources. It is hypothesized that this defensive posture may include a cognitive component whereby the individual may expect future loss and therefore be less likely to make resource investments and instead take a defensive posture.

5. Higher levels of expected resource loss at intake will be associated with significant elevations in major and minor life events at follow-up. Those who feel as though their resources are threatened may in fact experience a greater amount of major and minor life events. It is hypothesized that this occurs because such people are less willing to invest resources in order to avoid possible major and minor life events.

6. Past studies using the COR Model have found that higher levels of resource loss are associated with the greatest elevations in psychological distress. COR Theory would assume that when such heavy losses continue over an extended period of time that loss spirals will develop, extracting continually greater amounts from the individual's resource reserves, and leaving the persons in deeper distress. Thus, to test the concept of loss spirals, it is hypothesized that higher levels of resource loss at both intake and follow-up will be associated with the highest elevations in psychological distress at follow-up; and conversely, lower levels of resource loss at both intake and follow-up will be associated with the lowest elevations in psychological distress at follow-up.

7. Those low in resource loss at intake who do *not* experience a stressor will report the lowest amount of resource loss at follow-up, while those high in resource loss at intake who *do* experience a stressor will report the highest amount of resource loss follow-up. This hypothesis follows from the first COR corollary, which states that those with greater resources are less vulnerable to resource loss and, conversely, those with

fewer resources are more vulnerable to resource loss. Therefore, those who have greater resource reserves will experience fewer difficulties due to traumatic or chronically stressful events than those with lower resource reserves.

8. Resource loss at intake and follow-up will be of greater importance in accounting for variance in psychological distress and PTSD symptomology than will the experience of traumatic, major, and minor life events in and of themselves at the same time period. This hypothesis will test the COR model's ability to predict variance in distress due to loss, after the variance due the experience of stressful life events has been removed. Earlier it was discussed that across cultures the most stressful events on life event lists are consistently major loss events (Hobfoll, 1988; as cited in Hobfoll & Lilly, 1993). This more "objective" type of variance should therefore be accounted for by the life event measures themselves. What remains will be the more "subjective" differences in how participants perceived the loss due to those stressful events. COR theory would suggest that the predictive variance added to this equation by the COR model should be modest, since the objective experience of the events themselves has already been accounted for by the life event measures.

9. Expected resource loss at intake will significantly predict psychological distress at follow-up over and above psychological distress at intake, and resource loss at intake. This hypothesis follows from the assumption that those who expect increased resource loss are also those people who have experienced the most resource loss in the past and therefore expect more of the same in the future. It is also assumed that once variance due to these other variables is removed from the equation, that resource loss at follow-up will not be a significant predictor of psychological distress at follow-up.

CHAPTER II

METHOD

Participants

The participants were a convenience sample of 365 undergraduate students (236 females, 127 males) currently enrolled in a psychology course at Oklahoma State University, and were awarded class credit for their participation. Participants were asked to come in for two sessions. The follow-up session was scheduled for 7 weeks after the first; with a mean number of 60.59 days (SD = 6.67) between sessions. Two hundred and ninety-eight participants (82%) returned for follow-up.

Follow-up Response and Non-response

Follow-up response and non-response rates are displayed in Table 1. At baseline, participants ranged in age from 18 to 56, with a mean age of 20.3 (SD = 3.4) years. The majority of participants were Caucasian (84.1%), with Native American (5.8%), Asian (5.8%), African American (2.5%), Hispanic (1.4%), and other (.5%) participants comprising the remainder of the sample. Because so few people were in the "Native American," "Asian," "African American," "Hispanic," and "other" categories, these groups were combined in all further analyses. Nearly sixty percent of participants were single and not in a committed relationship, while the remainder were either single but in a committed relationship (33.7%), or married (6.8%). Because so few people were in the "married" category, this group was combined with those in the "single but in a committed relationship" category for future analyses. Participants who completed the follow-up assessment did not significantly differ from those who did not complete the follow-up on

any demographic, or psychological variables, with the exception of sex and ethnicity. Students who participated in the follow-up were significantly more likely to be female (69.7%), than were those who did *not* take part in the follow-up (43.9%). In addition, students who participated in the follow-up were significantly more likely to be Caucasian (86.0%), than were those who did not complete follow-up (76.1%). Table 2 displays comparisons of those who participated in the follow-up and those who did not on all demographic and psychological variables.

PTSD Diagnosis and Traumatic Life Event History

The number of participants reporting the experience of various traumatic life events is displayed in Table 3. Participants were asked to indicate the life event that they found most distressing over the previous month. A majority of the participants described a non-traumatic life event (e.g., divorce of parents, break-up with significant other) as most disturbing in the past month (25.8%). The next most frequently endorsed events were natural disasters (14.5%), life-threatening illness (12.3%), sudden unexpected death of a close friend or relative (7.1%), and sexual assault by someone known (5.5%). As discussed earlier, other authors have found the prevalence of traumatic life events to range from 40-90% in their community samples (Breslau, et al., 1998; Kessler, et al., 1995; Resnick, et al., 1996; Turner & Lloyd, 1995), and from 67-84% in their college student samples (Bernat, et al., 1998; Vrana & Lauterbach, 1994). The lifetime prevalence of traumatic life events at intake for the current sample of college students was just over 73%, which is consistent with these previous findings. A much smaller percentage of the sample (11%), reported that they experienced a traumatic event between intake and follow-up.

Prior studies have also found that between 8 and 28% of those who experience traumatic events meet full criteria for PTSD following that event (Bernat, et al., 1998; Breslau et al., 1998; Kessler, et al., 1995; Resnick, et al., 1996). In the current sample, over 7% of those who experienced a traumatic event at intake met full criteria for PTSD according to the PDS (Foa, et al., 1997). Research has also concluded that as the time between the event and the assessment for PTSD decreases, the likelihood of an individual meeting full criteria for PTSD increases (Rothbaum, Foa, Riggs, Murdock, & Walsh, 1992). Within the current sample, the quantity of people who met full criteria for PTSD jumped from 11% at intake to over 33% for those who had experienced the event between intake and follow-up (approximately a 2 to 3 month time span). These results confirm prior findings regarding the development of PTSD, since most participants at intake who reported a traumatic event, reported an event that occurred from 3 months to more than five years prior to that time (88.51%). Thus, most individuals at intake had a greater amount of time to cope with their reported traumatic event prior to being assessed.

Procedure

Participants were recruited from psychology courses near the beginning of the semester, during which time they were asked to participate in a study for class credit. They were told the nature of the study, and that data would be collected at two separate time periods: once during the upcoming week, and again toward the end of the semester. Participants were scheduled to complete the first battery of questionnaires in a large-group, classroom setting. Following this session, participants took part in a short debriefing which provided them with community referrals if they experienced distress

associated with the study but did not reveal the complete hypotheses associated with this study.

Approximately 7 weeks after their completion of the intake session of the study, participants were contacted to take part in the follow-up session. They were first contacted through general announcements within their psychology classes and then by individual telephone contacts. Research assistants continued to call those participants who did not present to the first follow-up session for approximately 3 weeks. These remaining participants completed the questionnaires in small group or individual sessions. At the end of the follow-up session, participants were fully debriefed on the objectives of the study.

Measures

Participants completed the following instruments designed to assess demographic characteristics, psychological distress, traumatic life events and PTSD symptomology, major life events, minor life events, resource loss and expected resource loss (see Appendix A). Rates of psychological disturbance and levels of stressful life events are displayed for intake and follow-up sessions in Table 4.

Demographic Characteristics

The demographic characteristics of age, gender, ethnicity, and relationship status were assessed via four questions, two open-ended (age and gender), and two multiple choice (ethnicity and relationship status). Ethnicity choices included: Caucasian, Native American, Asian, African American, Hispanic, and an "other" category where participants could write in an ethnicity. Relationship choices included "single, not in a committed relationship," "single, in a committed relationship," "married," and an "other"

category. All responses to the other category were recoded into one of the other three relationship categories. Examples of these responses include "engaged," which was recoded into "single / in a committed relationship," and "dating," which was recoded as "single / not in a committed relationship."

Psychological Distress

Psychological distress was assessed at intake and follow-up via the Brief Symptom Inventory (BSI; Derogatis & Spencer, 1982). This 52-item self-report symptom inventory, which is essentially the brief form of the Symptom Check List 90-R, was designed to reflect psychological symptom patterns. Respondents indicate on a 5-point scale (0 = "not at all," 1 = "a little bit," 2 = "moderately," 3 = "quite a bit," 4 = "extremely") how much each symptom has bothered them in the past month. The Global Severity Index (GSI), which is the average rating given to all 52 items, was used in these analyses because it is considered the most sensitive single indicator of current distress level (Derogatis & Spencer, 1982). The BSI manual reports good internal consistency and test-retest (2 weeks) reliability as well as adequate convergent validity for the measure (Derogatis & Spencer, 1982). Reliability analyses revealed coefficient alphas of .96 at intake and .98 at follow-up for the BSI - Global Severity Index within the current sample.

Traumatic Life Events and PTSD Symptomology

Traumatic life events and PTSD symptomology was assessed at intake and follow-up with the Posttraumatic Diagnostic Scale (PDS; Foa, Cashman, Jaycox, & Perry, 1997). The PDS provides respondents with a list of 12 more common traumatic events, including an "other" category. Respondents are directed to indicate how many of these events they have experienced or witnessed. They are then asked to indicate which event

has bothered them the most in the past month, to described the event, and to answer the rest of this questionnaire in reference to that event. If an individual has not experienced a traumatic event, the PDS directs the participant to think of one stressful life experience that in some way affected or bothered him or her. Criterion A for the diagnosis of PTSD is additionally established by the respondent's answer to the nature of the traumatic event, and the respondent's emotional reaction to the event. The PDS also includes 17 items directly corresponding to the DSM-IV (APA, 1994) PTSD criteria: 5 of the items assess reexperiencing, 7 assess avoidance, and 5 assess arousal. The frequency of each symptom in the past month is rated on a 4-point scale (0 = "not at all or only one time," 1 = "once a week or less / once in a while," 2 = "2 to 4 times a week / half the time," 3 = "5 or more times a week / almost always"). The sum of the ratings for these 17 items is then used as the indicator of current PTSD symptomology. Finally, to address DSM-IV (APA, 1994) Criterion F, the PDS includes nine yes-no items assessing impairment in different life areas (i.e., work, household duties, friendships, leisure activities, schoolwork, family relationships, sex life, general satisfaction with life, overall level of functioning) within the past month.

For the purpose of this study, respondents were classified as experiencing a possibly traumatic event if the event they described was specifically mentioned under the "Diagnostic Features" of PTSD within the DSM-IV (APA, 1994). That is, the events included military combat, a violent personal assault (sexual assault, physical assault), torture, imprisonment, a natural disaster, a serious accident, a life-threatening illness, developmentally inappropriate sexual experiences, witnessing someone mutilated, seriously injured, or violently killed, learning about a trauma to others, or the sudden

unexpected death of a close friend or relative. In addition, only those events occurring between intake and follow-up will be counted as new possibly traumatic events at follow-up. As noted above, the sum of 17 items concerning PTSD symptomology will used as the indicator of current PTSD related distress. Finally, for descriptive purposes, participant's responses on the PDS will also be assessed for the possible diagnosis of PTSD using DSM-IV (APA, 1994) criteria. That is, a diagnosis of PTSD was given if respondents reported they experienced or witnessed an event involving actual or threatened death or serious injury to themselves or others, and their responses to this event involved fear, helplessness, or horror. In addition, respondents must have reported that they experienced at least one of five symptoms of reexperiencing, at least three of seven avoidance symptoms, at least two of five arousal symptoms, that these symptoms have lasted for at least one month, and that this disturbance has caused impairment in one of nine areas of life functioning. The PDS has been found to have good internal consistency and satisfactory test-retest (2 - 3 weeks) reliability of PTSD diagnoses. The PDS has adequate convergent validity for PTSD diagnosis with the SCID; and its symptom severity scores have high concurrent validity with measures of anxiety, depression, and intrusion/avoidance (Foa, et al., 1997). Coefficient alphas for the 17-item PDS -Symptom Severity Scale were .92 at intake and .95 at follow-up for this sample.

Major Life Events

Major life events were assessed by the Life Experiences Survey (LES; Sarason, Johnson, & Siegel, 1978), a 57-item self-report measure which allows respondents to indicate if they have experienced a variety of events over the past year. The LES contains two sections, the first section (47 items) addresses life changes that are common to people

in a wide variety of situations, while the second section (10 items) contains life changes common to students. At intake, respondents indicated if an event had occurred in the past year (0 - 6 months or 7 months - 1 year), while at follow-up, respondents indicated if an event had occurred "since phase one." This modification to the LES at follow-up was necessary so that respondents would only report those events which have occurred since intake. Respondents are then asked whether they view the event as being positive or negative, and the perceived impact of the event on their life at the time it occurred. Ratings are on a 7-point scale ranging from "extremely negative" (-3) to "extremely positive" (+3). The Negative Change Score, which is the sum of impact ratings on events experienced as negative by the respondent, was used in these analyses because it is considered to be more highly correlated with stress-related dependent measures (Sarason, Johnson, & Siegel, 1978). The LES has been found to have moderate test-retest (5 - 6 weeks) reliability and to correlate significantly with measures of anxiety, depression, and general psychological distress (Sarason, Johnson, & Siegel, 1978). The coefficient alphas for the LES - Negative Change Score were .75 at intake and .80 at follow-up in this sample.

Minor Life Events

The Weekly Stress Inventory (WSI; Brantley & Jones, 1988) was utilized to assess minor life events. This 89-item self-report questionnaire, which was developed as an expanded, weekly alternative to the Daily Stress Inventory (DSI), was designed to measure the impact of minor life events commonly called "hassles." Respondents make three separate indications: if an event has occurred in the past week, if that event occurred three or more times within the past week, and to what degree they found the event

stressful. Ratings for this last question are on a 7-point scale ranging from "happened but not stressful" (1) to "extremely stressful" (7). In the one published study utilizing the WSI, Thompson, Brantley, Jones, Dyer, and Morris (1992) found it to be moderately correlated with the LES in a sample of individuals suffering from rheumatoid arthritis. Although there is little psychometric data available for the WSI, there are several studies that address these issues for the DSI. Brantley, Waggoner, Jones, and Rappaport (1985) found the DSI to have moderate test-retest reliability and to correlate significantly with other measures of minor stressful events. These authors also found the sum impact rating (SUM), which is the sum of impact ratings on all events for the DSI, to be more consistently correlated with concurrent measures of stress. For this reason, the SUM scale for the WSI was used in these analyses. Reliability analyses revealed high coefficient alphas at intake (.89) and follow-up (.92) for the DSI - SUM with this sample.

Resource Loss

Resource loss was assessed using a 60-item scale, modified from the original 74-item COR-E (Hobfoll, et al., 1992), and the 52-item COR-E used in two prior studies (Freedy et al., 1992; Smith & Freedy, 1996). The current 60-item version of the COR-E includes all 52-items from the version developed by Freedy et al. (1992) so that comparisons with other samples would be possible. It also includes an additional 8 items examined by Hobfoll et al. (1992). These 8 items were included because they were found by Hobfoll to have correlations of at least .70 in the student sample, or they were thought to be conceptually important to an undergraduate population. Also in keeping with the original 52-item COR-E, respondents are asked to rate the extent they have experienced a

loss of each resource on a 5-point scale (0 = "no loss," 1 = "a little bit," 2 = "moderate amount," 3 = "quite a bit," and 4 = "extreme amount").

The current study utilized three different versions of the 60-item COR-E that differed only in the time period about which respondents were questioned. The first two versions, given at intake, assessed "experienced" resource loss over the past month, and "expected" resource loss during the upcoming semester. The third version, given at follow-up, assessed experienced resource loss since intake. Reliability analyses on the 60-item COR-E used with this sample revealed high coefficient alphas for experienced loss at intake, expected loss at intake, and experienced loss at follow-up (.93, .98, and .98 respectively).

CHAPTER III

RESULTS

Content Overlap

Confounding of item content is a major concern when attempts are made to predict outcomes such as psychological distress with other variables like stressful life events. This type of confounding may also be problematic in the current study where resource loss is utilized to predict psychological outcome. Some authors have proposed that researchers should decontaminate the independent variable by removing items that may overlap in content with the dependent variable of interest (Dohrenwend, Dohrenwend, Dodson, & Shrout, 1984). While other authors have noted that in doing so, one may be attempting to remove processes that are an integral part of the stress response, and that some degree of confounding between the measurement of independent and dependent variables is inevitable (Lazarus, DeLongis, Folkman, & Gruen, 1985). In an effort to account for this problem of confounding, the 60-item COR-E utilized in this study underwent a similar procedure to that proposed by Dohrenwend, et al. (1984).

Four independent raters compared items on the COR-E with items from the BSI and PDS to assess for the likelihood that COR-E items could be considered symptoms of a psychological disorder. Raters were instructed to assign a score from 0 to 4 for each COR-E item (0 = "none," 1 = "a little," 2 = "a moderate amount," 3 = "quite a bit," 4 = "an extreme amount") denoting the amount of content overlap between that item and at least one item from the BSI or the PDS. In cases where two or more raters were in agreement on the amount of item content overlap, each item was given the highest score

given by the majority of raters ("none" (40 items), "a little" (6 items), "a moderate amount" (4 items), "quite a bit" (3 items), "an extreme amount" (5 items)). In cases where none of the raters were in agreement on the amount of item content overlap, the items were given the mean of the four raters' scores ("a moderate amount" (1 item), "quite a bit" (1 item)). COR-E items judged by the majority of the raters to not overlap in content with items from the BSI and PDS were included in the "non-confounded" versions of the COR-E (40 items; see Table 5). At least three raters felt that the majority of these items (32) were not overlapping in content with items from the BSI and PDS.

Three new versions of the COR-E were created utilizing the non-confounded items from those previously utilized in this study (resource loss at intake and follow-up, and expected resource loss at intake). All analyses involving any of the three original versions of the COR-E and psychological distress or PTSD symptom severity, were also completed using these non-confounded versions. The pattern and magnitude of results was found to be similar when utilizing these non-confounded versions of the COR-E in hypotheses one, two, and five. However, differences were found within hypotheses eight and nine, and will be discussed in further detail within those sections.

As discussed earlier, COR-E items were chosen to be included within the final non-confounded version of the COR-E based on whether those items were judged by a majority of raters to either overlap or not overlap with items from the BSI and PDS. Therefore, inter-rater agreement was assessed by examining the degree to which all four raters agreed that items on the COR-E did overlap (score of 1 to 4) or did not overlap (score of 0) with items from the BSI and PDS. Raters were found to have satisfactory agreement when judging items (Kappa = .61; Kraemer, 1992). In fact, raters were in

complete agreement on 40 of the 60 items on the COR-E (29 non-confounded, 11 confounded).

Length of Time between Intake and Follow-up

Within this sample, the span of time between intake and follow-up ($M = 60.59$, $SD = 6.67$) was highly variable, ranging from approximately 7 weeks (47 days) to approximately 11 weeks (76 days). Because of this, associations between the amount of time from intake to follow-up, and the two dependent measures of psychological distress and PTSD symptom severity at follow-up, were tested within a correlation matrix involving these three variables. Results indicated that the length of time between the two measurement periods was not significantly associated with either psychological distress at follow-up ($r = -.04$) or PTSD symptom severity at follow-up ($r = -.02$). For this reason, the amount of time between intake and follow-up will not considered within further analyses.

The Association between Demographic Characteristics and Study Variables

Table 6 presents correlations among demographic variables, and predictor and outcome variables. The demographic variable of age was significantly correlated with the severity of PTSD symptomology at follow-up ($r = .13$) and the experience of traumatic life events both before intake ($r = .11$) and at follow-up ($r = .13$), in that as the age of respondents increased, so did the likelihood that they had experienced a traumatic life event or experienced greater PTSD symptomology at follow-up. The sex of participants was also significantly correlated with psychological distress at intake ($t\ (365) = 2.41$, $p < .05$) and the severity of PTSD symptomology at follow-up ($t\ (269) = 2.69$, $p < .05$), in that females reported a significantly greater amount of psychological distress at intake

and PTSD symptomology at follow-up. Finally, the ethnicity of respondents ("Caucasian" vs. the combined "Other" ethnicity category) was significantly associated with psychological distress at intake (t (365) = 2.78, $p < .05$), PTSD symptom severity at intake (t (325) = 3.55, $p < .01$), and resource loss at follow-up (t (296) = 8.45, $p < .001$), in that Caucasian participants reported a significantly lower amount of psychological distress and PTSD symptomology at intake, and resource loss at follow-up.

Replications of Previous Findings

The first hypothesis stated that there would be a strong positive correlation between experienced resource loss and psychological distress and PTSD symptomology at intake and follow-up. Experienced resource loss correlated significantly with psychological distress and PTSD symptomology at intake (rs = .68, .34 respectively). Identical associations were also found between experienced resource loss and psychological distress and PTSD symptomology at follow-up (rs = .68, .34 respectively). The pattern and magnitude of these results were similar after controlling for the significant associations of ethnicity (with psychological distress and PTSD symptoms at intake, and resource loss at follow-up), sex (with psychological distress and PTSD symptoms at follow-up), and age (with PTSD symptoms at follow-up) demographic variables. The second hypothesis stated that the expectation of a greater amount of resource loss would be positively correlated with psychological distress and PTSD symptomology at intake. Expected resource loss at intake was significantly correlated with psychological distress and PTSD symptomology at intake (rs = .59, .28 respectively). The pattern and magnitude of these results were also similar after controlling for the significant association of ethnicity with psychological distress and PTSD symptoms at intake (Table

7). These findings replicate those of other authors related to the association of resource loss and psychological distress (Evans, 1997; Freedy, Saladin, Kilpatrick, Resnick, & Saunders, 1994; Freedy, Shaw, Jarrell, & Masters, 1992; O'Neill, Evans, Bussman, & Strandberg, in press; Smith & Freedy, 1996). In addition, these and all hypotheses within this study were re-evaluated using a Bonferroni correction. That is, the p value needed to reach statistical significance (.05) was divided by the number of statistical tests needed to examine each hypothesis. After utilizing the Bonferroni correction, the results of hypotheses 1 and 2 remained significant at the new p value of .025.

Table 7 also displays the finding that resource loss at intake and follow-up and expected resource loss at intake are all highly intercorrelated even across measurement periods (rs = .57 to .81). In addition, all variables, with the exception of traumatic life events, are highly correlated with all other variables within this study. This is not surprising since each of these variables can be seen as measuring either distress or a possible cause of distress. One probable reason that potentially traumatic life event exposure was found not to be significantly related to a number of other event and distress variables is that the mere exposure to such an event does not necessitate that the individual will experience the event as traumatic or even very stressful. Although these events are relatively common, the likelihood that they will produce significant psychological distress is dependent on a number of factors other than mere exposure (i.e., type of event, severity of event, timing of event). As was stated earlier, only 7% of those at intake who experienced such an event, actually met full criteria for PTSD.

The third hypothesis stated that higher levels of experienced resource loss at intake and follow-up will be associated with clinically significant elevations in psychological

distress within the same time period. Past studies have attempted to test this hypothesis by employing the psychological assessment procedures utilized by Derogatis (1983), and Graham (1990; see Freedy et al.,1992, 1994). Within this analysis, cutoff scores are established for the four proposed COR model categories. The upper 25% of resource loss scores in each COR category are labeled as high levels of resource loss, while the remainder are labeled as low levels of resource loss. The four COR categories are summed for each respondent, with one point being assigned for each category scored as "high." In this way, respondents can score from 0 to 4 denoting how many resource categories have been scored as "high." In the current study, two one-way ANOVAs were utilized to test for overall significance at intake and follow-up with level of resource loss (0, 1, 2, 3, 4) predicting amount of psychological distress. Results indicated that increasing levels of resource loss were significantly related to increasing amounts of psychological distress both at intake, F (4, 360) = 49.20, $p < .001$, and a follow-up, F (4, 292) = 35.40, $p < .001$. After utilizing the Bonferroni correction, the overall results of hypothesis 3 remained significant at the new p value of .025.

Individual t-tests with Tukey corrections were utilized within each ANOVA to discover between which levels of resource loss differences in psychological distress were significant. At intake, differences between all levels of resource loss were statistically significant, except for the difference between one and two elevated COR categories (categories 0 and 1, t (356) = -4.71, $p < .001$; categories 0 and 2, t (229) = -7.66, $p < .001$; categories 0 and 3, t (214) = -9.82, $p < .001$; categories 0 and 4, t (204) = -13.28, $p < .001$; categories 1 and 3, t (108) = -4.39, $p < .001$; categories 1 and 4, t (98) = -6.95, $p < .001$, categories 2 and 3, t (81) = -2.50, $p < .05$, categories 2 and 4, t (71) = -5.31, $p <$

.001, categories 3 and 4, t (56) = -1.99, $p < .05$). While at follow-up, differences between all levels of resource loss were also statistically significant, except for the difference between two and three elevated COR categories (categories 0 and 1, t (215) = -4.14, $p < .001$; categories 0 and 2, t (185) = -7.66, $p < .001$; categories 0 and 3, t (171) = -7.85, $p < .001$; categories 0 and 4, t (159) = -10.91, $p < .001$; categories 1 and 2, t (108) = -3.71, $p < .001$; categories 1 and 3, t (94) = -4.08, $p < .001$, categories 1 and 4, t (82) = -7.02, $p < .001$, categories 2 and 4, t (52) = -2.63, $p < .05$, categories 3 and 4, t (38) = -2.59, $p < .05$). Thus, as the number of high resource loss categories increases, so does the amount of psychological distress experienced; and these differences in psychological distress between each level of resource loss are for the most part significant. The mean psychological distress score (GSI) at each severity level of resource loss for intake and follow-up is shown numerically in Table 8, and pictorially in Figure 1.

Threshold scores for clinically significant levels of psychological distress were obtained from the BSI manual (Derogatis, 1982). Caseness, or a positive diagnosis, is defined as having a GSI score greater than or equal to t-score 63, or having any two primary dimension scores greater than or equal to t-score 63. Cramer's V was utilized to determine if the percentage of those meeting caseness criteria for the BSI differed significantly by the severity level of resource loss at intake and follow-up. As the severity level of resource loss increased, so did the percentage of those meeting caseness criteria for the BSI at intake ($r = .53$, $p < .001$), and at follow-up ($r = .49$, $p < .001$). The percentage of participants meeting criteria for caseness on the BSI at intake was 22%, 50%, 71%, 88%, and 96% for 0, 1, 2, 3, and 4 elevated resource categories, respectively. Similarly, the percentage of people meeting caseness criteria at follow-up was 13%, 34%,

55%, 65%, and 93% for 0, 1, 2, 3, and 4 elevated resource categories, respectively (Figure 2).

Resource Loss and Expected Resource Loss

The fourth hypothesis stated that higher levels of resource loss at intake would be associated with significant elevations in expected resource loss at intake. This hypothesis was designed to test a corollary of COR Theory proposed by Hobfoll and Lilly (1993), asserting that those who have lower resource reserves will take a defensive posture towards the investment of their remaining resources. The current study proposes that this defensive posture involves an expectation of future loss, whereby the individual will be less likely to make resource investments. To test this hypothesis, the zero order correlation associated with resource loss and expected resource loss at intake was evaluated. Results indicate that prior resource loss was highly associated with expected resource loss ($r = .81$). Thus, those who experienced greater amounts of prior resource loss also expected greater resource loss in the future (Table 7).

The fifth hypothesis was that higher levels of experienced resource loss at both intake and follow-up would be associated with the highest elevations in psychological distress at follow-up; and conversely, that lower levels of resource loss at intake and follow-up would be associated with the lowest elevations in psychological distress at follow-up. To test this hypothesis, scores for resource loss at intake and follow-up were combined to make an overall resource loss variable. Since the COR-E could range from a possible score of 0 to 240 at each time period, the new range of the combined COR-E was now 0 to 480. A single multiple regression was conducted to test the hypothesis that the combined intake and follow-up resource-loss-variable would be a significant predictor of

psychological distress at follow-up, after first accounting for the variance due to the demographic variable of sex. The importance of the combined COR-E in predicting distress after the variance due to sex was accounted for was determined by examining the Δr^2 as an indicator of the variance explained by the combined resource loss variable after variance due to sex was removed from the equation. This regression analysis indicated that after the variance due to sex ($r^2 = .02$) had been accounted for, $F(1, 294) = 4.96$, $p < .05$, the combined resource loss variable accounted for an additional 46.8% of the variance in psychological distress at follow-up, $F(2, 293) = 137.91$, $p < .001$.

In addition, it was thought that those who took the defensive posture proposed in hypothesis five, would be less willing to invest resources in order to avoid future major and minor life events. Thus, the sixth hypothesis stated that higher levels of expected resource loss at intake would be associated with significant elevations in the overall impact of major and minor life events at follow-up. It was thought that this would occur because those whose resources were threatened would be less willing to invest resources in order to avoid possible major and minor life events. To test this hypothesis, two sets of zero order correlations were examined, the first was the association between expected resource loss at intake and major life events at follow-up, while the second was the association between expected resource loss at intake and minor life events at follow-up. Expected resource loss accounted for 25% of the variance in minor life events at follow-up ($r = .50$), and 12% of the variance in major life events at follow-up ($r = -.34$). Thus, those who expected larger amounts resource loss also experienced more impact associated with major and minor life events over the course of the semester (Table 7).

After adjusting for the new Bonferroni p value of .025, the results of hypothesis 6 remained significant.

High Levels of Negative Life Events

The seventh hypothesis was that those who were low in resource loss at intake who did *not* experience a stressor would report the lowest amount of resource loss at follow-up, while those high in resource loss at intake who *did* experience a stressor would report the highest amount of resource loss at follow-up. This hypothesis was designed to test another corollary of COR Theory proposed by Hobfoll and Lilly (1993), asserting that those with greater resources are less vulnerable to resource loss and, conversely, those with fewer resources are more vulnerable to resource loss.

The term "stressor" was operationalized within this analysis by utilizing the measures of traumatic, major, and minor life events at follow-up. Experiencing a "stressor" was defined as encountering a potentially traumatic event, or scoring in the upper half of scores on the measures of major or minor life events following a median-split of those two variables. A median-split was also performed on resource loss at intake so that participants could be categorized as "low" or "high" in resource loss at that time. In this way, all participants could be categorized according to their prior level of resource loss and their current level of life event experience (low loss / high event, low loss / low event, high loss / high event, high loss / low event) for each of the three life event variables (traumatic, major, and minor). Correlations between resource loss at intake and follow-up were then examined for all four-cell combinations of resource loss at intake and event occurrence at follow-up.

As expected, resource loss at intake was significantly correlated with resource loss at follow-up for all groups except for low resource loss / traumatic life event (Table 9). However, this non-significant result was likely due to the low number of participants within that particular category (Table 10). The most consistently strong associations between resource loss at intake and follow-up, occur for those individuals with a low level of resource loss at intake and who experience lower levels of minor ($\underline{r}$ = .43), major ($\underline{r}$ = .47), and traumatic ($\underline{r}$ = .46) life events at follow-up. However, this is again likely due to the fact that this group of cells also had the most consistently high number of participants. For this reason, simply examining these correlations may not be the best way to interpret this data. Instead, it may be more prudent to examine the level of outcome resource loss across all categories of resource loss and life event. By examining the mean amount of resource loss at follow-up for each category of loss and life event, one can see that there is a progression from a very low *average* amount of resource loss for those with low prior resource loss and low life events ($\underline{M}$ = 9.8), to a high *average* amount of resource loss for those with a higher amount of prior resource loss and greater life events ($\underline{M}$ = 32.28; Figure 3).

After utilizing the Bonferroni corrected $\underline{p}$ value of .006, several changes in significance were found between resource loss at intake and resource loss at follow-up. All values originally significant at the .05 level became insignificant when utilizing this corrected value for $\underline{p}$ (see Table 10). Once again, these changes in significance occurred within groups containing fewer participants (see Table 11).

The eighth hypothesis was that resource loss at intake and follow-up would be of greater importance in accounting for variance in psychological distress and PTSD symptomology than would the experience of minor, major, and traumatic life events at the same time period. Four separate hierarchical regressions were conducted with either psychological distress or PTSD severity at intake or follow-up as the dependent variable in each regression. Demographic variables that were found earlier to be significantly associated with the dependent variables of interest in these analyses were entered first into the regression equation. Ethnicity was entered into the equation predicting psychological distress and PTSD symptomology at intake, gender was entered into the equation predicting psychological distress at follow-up, and age and gender were entered into the equation predicting PTSD symptomology at follow-up. Minor, major, and traumatic life events, were then respectively entered into the regression equation, with resource loss entered last. The ability of the COR-E to predict psychological distress and PTSD symptom severity over and above minor, major, and traumatic life events was determined by examining the Δr^2 for resource loss within each equation. As can be seen in Table 11, after variance due to associated demographic variables and all three types of life events were first accounted for, resource loss was predictive of additional variance in both BSI (.18 and .13) and PTSD symptomology (.02 and .01) scores at intake and follow-up, respectively. The further examination of the beta weights showed the unique variance of psychological distress and PTSD symptom variables attributable to demographic variables, life event measures, and resource loss, while controlling for the other predictors within the model. Resource loss was the best unique predictor of

psychological distress at intake, $B = .54$, $p < .001$, and follow-up, $B = .51$, $p < .001$. While resource loss was the second best unique predictor of PTSD symptomology at intake, $B = .15$, $p < .01$ (Major Life Events, $B = -.25$, $p < .001$), and follow-up, $B = .16$, $p < .07$ (Minor Life Events, $B = .25$, $p < .001$). After utilizing the Bonferroni corrected p value of .012, no changes in the overall significance of these analyses were found. However, resource loss did cease to be a significant unique predictor of PTSD symptomology at intake and follow-up.

In addition, when utilizing the non-confounded versions of the COR-E within this analysis, resource loss at follow-up predicted a much lower amount of unique variance in both psychological distress, $r = .19$, $p < .01$, and PTSD symptom severity, $r = .03$, $p = .74$, at follow-up than did the original version of the COR-E. This is a decline from 27% to 4% unique variance explained in psychological distress at follow-up, and from 3% to nearly 0% unique variance accounted for in PTSD symptom severity at follow-up, by resource loss at follow-up.

Finally, it was hypothesized that expected resource loss at intake would significantly predict psychological distress at follow-up over and above psychological distress at intake, and resource loss at intake. This hypothesis follows from the assumption that although expected resource loss likely overlaps with prior resource loss and psychological distress, that the construct of expected loss also contains additional variance due to the defensive posture taken by those who have experienced prior loss. It is also assumed that once variance due to these other variables is removed from the equation, that resource loss at follow-up will not be a significant predictor of psychological distress at follow-up. To test this hypothesis, a single hierarchical multiple

regression was conducted with gender (because of its association with psychological distress at follow-up), psychological distress at intake, resource loss at intake, expected resource loss at intake, and resource loss at follow-up entered respectively in separate blocks, to predict psychological distress at follow-up. Expected resource loss accounted for a significant amount of unique variance in psychological distress at step 3, $B = .17$, $p < .01$, prior to the addition of experienced resource loss at follow-up. However, after resource loss at follow-up was entered into the regression equation, expected resource loss was no longer a significant predictor of distress (Table 12). This is likely due to the large amount of overlapping variance between expected resource loss at intake and resource loss at follow-up ($r = .57$; Table 7). Similar to hypothesis eight, differences were also found between the original and non-confounded versions of the COR-E in these analyses. In the original analyses, expected resource loss accounted for a significant amount of unique variance in psychological distress at follow-up, $B = .17$, $p < .01$, prior to resource loss at follow-up being entered into the regression equation. However, when utilizing the non-confounded versions of the COR-E, expected resource loss did not predict a significant amount of unique variance in psychological distress at follow-up, although the non-confounded versions of resource loss at intake and follow-up reacted similarly within the regression equation to the original versions of those measures.

CHAPTER IV

DISCUSSION

The purpose of this study was to further assess the effects of resource loss and expected resource loss on psychological distress and PTSD symptomology. This was the first study to assess prior loss and expected loss simultaneously. It was also the first study where the effects of chronic major and minor life stressors were empirically assessed in terms of COR Theory; and it was one of the few studies to address potential differences between major life events and those events that are traumatic in nature. Finally, this study empirically tested two corollaries of COR Theory outlined by Hobfoll and Lilly (1993) with prospective data.

Summary of Results

Results obtained in this study were found to fully support seven of the study's nine hypotheses. However, when non-confounded versions of the COR-E were utilized, two of the study's hypotheses (eight and nine) were not upheld. The issues regarding the use of these non-confounded measures will be discussed later within the section addressing this study's limitations. Overall this study confirmed a strong positive relationship between resource loss, expected loss, psychological distress, and PTSD symptomology. It is, however, possible that this relationship is due to some amount of conceptual overlap between the measures of loss and distress; and our attempts to decontaminate our measure of loss were not completely successful.

Two of this study's hypotheses addressed the use of the defensive posture supposedly taken by individuals with higher levels of resource loss (Hobfoll & Lilly,

1993). A cognitive component of this defensive posture was proposed to involve the expectation of future resource loss. As predicted, those who experienced more resource loss at intake also expected greater resource loss in the future, and reported experiencing more impact associated with major and minor life events at follow-up. However, the proposition that expected resource loss is a component of this defensive posture is merely an assumption. It is also possible that having participants rate the degree to which they expect to receive future losses measures something not intended.

Therefore, there are a number of alternate explanations for the association between expected resource loss at intake and an increased impact associated with major and minor life events found in this study. First, expected resource loss could have measured participants' levels of hopelessness concerning the future. In this way, participants who were more hopeless concerning the future, may have been less likely to take action to avoid potential stressors due to their negative affectivity. However, if this were the case, the association between psychological distress and expected resource loss at intake would have been much higher than that which was actually found (r =.59).

Another explanation for these results is that expected resource loss was actually measuring the amount of worry that participants had concerning the future loss of various resources. In examining the affects of worry on minor life events, Russell and Davey (1993) found that participants who reported more worry, also reported an increased amount of daily hassles. It was proposed that this occurred because worrying leads people to seek out threat-relevant information in the environment. Hence, more hassles do not actually befall worriers; instead, they notice hassles more often when they do occur (Davey, 1993; Russell & Davey, 1993). Therefore, if our concept of expected resource

loss was actually measuring worry, it would not be surprising that it was highly associated with the future impact of minor life events ($r = .50$).

Additional explanations for the association of expected loss and future life events include that those who expected future loss, actually *did* risk resources to offset negative life events, however, they may have just been poor resource investors, ending up in a worse position than they were originally. This would also account for the association between prior and expected resource loss, in that some people may just be poor resource investors, and being aware of this inadequacy, they expect additional loss in the future. Finally, those who have experienced a great deal of prior resource loss may not have any further resources to invest. Therefore, when future negative events do occur, they have nothing left to offset those stressors. One can see by the number of alternative explanations given here, that there is much work to be done before the defensive posture proposed within COR Theory is fully delineated. Options for doing so will be discussed later under directions for future research.

Additionally, the outcome of loss spirals was empirically examined for the first time utilizing prospective data. Loss spirals were evaluated by combining resource loss scores from intake and follow-up and predicting final psychological distress. Results indicated that those with consistently high levels of resource loss at intake and follow-up had the highest levels of psychological distress at follow-up, while those who had consistently low levels of resource loss at intake and follow-up had the lowest scores on our measure of psychological distress at follow-up. In addition, the affect of stressful life events on resource loss was assessed by categorizing all participants according to prior level of resource loss and amount of recent stressors. Those with a low amount of initial resource

loss faired the best overall, even when they experienced a high level of recent negative life events; and those with a high level of initial resource loss faired worst, even when they experienced a low level of recent life events. Therefore, prior resource loss was more important in determining outcome than was the impact associated with stressful life events. Again, if the constructs of resource loss and distress were measuring the same thing, these two findings would also be expected.

The ability of resource loss to predict distress was assessed within two hypotheses. First, resource loss at each time period was of greater importance in accounting for variance in psychological distress than was the experience of minor, major, and traumatic life events at the same time period. However, resource loss was found to be only the second best unique predictor of PTSD symptomology at intake (major life events was best) and follow-up (minor life events was best). One possible explanation for this finding is that the pathology brought about by traumatic life events is truly unique from that caused by lesser negative life events. That is, PTSD symptomology following traumatic life events is determined to a lesser extent by the amount of resource loss experienced. However, it is also possible that since our measure of PTSD symptoms only assessed for symptoms relating to a specific event, and not to symptomology in general, participants may have underreported PTSD symptomology. This may have affected the relationship between resource loss and PTSD symptomology. Second, expected resource loss at intake significantly predicted psychological distress at follow-up over and above psychological distress at intake, and resource loss at intake. However, once resource loss at follow-up was entered into the regression equation, it became a significant unique predictor of distress, while expected resource loss ceased to be significant. The strong

correlation between resource loss at follow-up and psychological distress at the same time period was likely the reason that expected resource loss ceased to be a significant predictor of distress once resource loss at follow-up was entered into the equation. Once again, the strong association between loss and psychological distress found here would also be expected if both were actually measures of outcome.

Implications of Findings

Theoretical Implications

Results of this study have a number of theoretical implications for COR Theory specifically and the stress literature in general. To begin, the current study replicates a number of findings regarding the association of resource loss and expected loss with distress. First, this was the fifth study using the COR model to demonstrate a strong positive relationship between resource loss and psychological distress (Evans, 1997; Freedy, et al., 1994; Freedy, et al., 1992; Smith & Freedy, 1996); and the second study demonstrating a positive relationship between resource loss and PTSD symptomology (Kaiser, et al., 1996). These replications strengthen the theory that resource loss may be a key factor in the development of psychopathology following stressful life events. In addition, this was the fourth study to demonstrate a strong positive relationship between higher levels of resource loss and elevated psychological distress (Freedy, et al., 1994) or clinically significant psychological distress (Freedy, et al., 1992, Evans, 1997). Therefore, when losses are severe, or are experienced within multiple resource domains, people may be more likely to experience clinically significant levels of psychological distress. This was also the second study to find that the expectation of resource loss is positively correlated with psychological distress (O'Neill, et al., in press). Thus, even the mere

threat of losing resources may itself be stress provoking. Each of these replications strengthen the presumption that resource loss, as conceptualized within the COR Model, may be a key contributor to the development of distress following negative life events.

In addition to the above replications, this study was the first to empirically test a number of theoretical assumptions of COR Theory. This was the first study to find expected resource loss to be positively associated with PTSD symptomology. This finding gives credence to the notion that both resource loss *and expected loss* may be antecedents to not only depression and general distress; but that they may also contribute to the development of more severe psychopathology. Also of importance to the concept of expected resource loss, was the finding that expected resource loss at intake significantly predicted psychological distress at follow-up over and above psychological distress at intake, and resource loss at intake. That is, even if one were to argue that our use of expected resource loss did not measure the proposed defensive posture, expected loss was both unique to psychological distress and resource loss at intake, and it was predictive of future psychological distress. None of these findings regarding expected loss contradict the characteristics of the defensive posture proposed by Hobfoll and Lilly (1993). Furthermore, two of this study's hypotheses addressed the development and utility of expectations regarding resource loss. First, results indicated that people with higher levels of past resource loss expected more resource loss than did those with lower levels of past resource loss. Second, those with higher levels of expected resource loss reported an increased impact associated with stressful life events. So, those with higher levels of prior loss appeared to have expected greater amounts of future loss, and this expectation of future loss may have been associated with an increase in the impact of

negative life events. Thus, for the first time, the mechanism by which prior resource loss is thought to beget future loss was at least partially empirically demonstrated. Although there are a number of alternate explanations for these results, they do not contradict what COR Theory would propose.

Moreover, this was the first study to test the psychological effects of consistently high levels of resource loss, the process by which loss spirals are thought to develop. Results indicated that those participants who experienced the highest amount of resource loss across both time periods endorsed the greatest amount of psychological distress symptomatology. Again, these results do not contradict what the COR Theory would propose is the psychological outcome of continually high levels of resource loss.

This was also the first study to address the potentially negative affects of stressful life events on resources. As predicted, prior resource loss was more important in determining final resource loss than was the impact associated with stressful life events. Therefore, although stressors generally have a negative affect on the resources of those who experience them, the pattern of resource loss experienced prior to the stressor may be more important in determining outcome. In addition, results indicated that resource loss appeared to be superior to minor, major, and traumatic life events in predicting psychological distress, although this relationship was not as strong with PTSD symptomology. This finding strengthens the literature behind the COR Theory by exhibiting the ability of COR-E to predict distress after first accounting for the variance due to other potential predictors of distress.

These findings also have major implications for stress theory in general. First, Lazarus' (1998) idea that behaviorally oriented theories of stress are merely interactional

in nature, was not supported by these results, in that prior loss was an excellent predictor of outcome. That is, the amount of resources people had available to them prior to the experience of a stressful life event was one of the best determiners of psychological outcome. Therefore, the current study, utilizing COR Theory, appears to have empirically demonstrated what Lazarus' (1998) has termed a *transactional* stress theory. Second, the COR Model maintained the ability to predict individual behavior without the occurrence of a stressor. So, even within those groups where there was a low occurrence of stressful life events, resource loss remained a strong predictor of psychological outcome. Hence, results support the prior assertion that person/environment transactions need not be explained in terms of higher level abstractions, and that they can instead be understood in terms of loss and gain of resources.

To summarize, the results of this study were found to support those principles of COR Theory under evaluation. Prior findings regarding the affects of resource loss and expected loss on psychopathology were both replicated and expanded. In addition, neither the proposed mechanisms by which loss spirals or the defensive posture are thought to develop, nor the proposed psychological outcomes of spirals or this defensive posture were disconfirmed. These results add to a growing body of literature exhibiting the utility of the COR Model in predicting the psychological effects of stressful life events.

Clinical Implications

Although the true purpose of this study was to empirically test several theoretical mechanisms by which resource loss is thought to lead to increased psychopathology, the current results concerning resource loss have practical implications as well. Because resource loss appears to be an important risk factor for developing clinical levels of

psychological distress, interventions should target the replenishment of resources in order to minimize future psychological distress. First, interventions should specifically consider the functional value of resources in adjusting to the environment. If resources basic to human survival have been lost, they should be replenished in order to restore normal functioning within the affected system, whether that be a family, neighborhood, or entire community. Until the basic needs of those affected have been met, the restoration of other resources, such as social support, will be much more difficult (Kaniasty & Norris, 1993). Personal resources may be strengthened through instruction in stress management, information on normative reactions, and effective coping strategies (Freedy, et al., 1992). Through these types of ongoing assessment and advocacy efforts, is would be possible to increase peoples' knowledge concerning the problems they are experiencing, and to teach them new skills to cope with those difficulties. In addition, through outreach efforts, such as the development of social support groups or community meetings, social resources could be bolstered (Hobfoll, et al., 1990). In these ways, by directly targeting lost resources for replenishment, the development of future psychological distress may be lessened or prevented all together.

Methodological Considerations and Directions for Future Research

There are a number of limitations within the current study that should be addressed within future studies. First, within the current study, expected resource loss may not have been measuring the defensive posture hypothesized to take place following resource loss. Instead, expected resource loss may actually have measured participants' levels of hopelessness concerning the future; or it may have measured the amount of worry that participants had concerning the future loss of various resources. Future studies should

examine alternative methods of operationalizing this defensive posture. The behaviors measured through these methodologies should be chosen because they diminish the number alternate hypotheses that could also account for findings. In addition, future research should measure the construct of resource investment in such as way as to prove that individuals utilizing this proposed defensive posture are in affect *choosing to not invest resources*, instead of one of many potential alternatives (i.e., they didn't have any resources to invest in the first place, they invested resources but they were ineffective, or they are just poor resources investors). For example, researchers could chose to examine a specific stressful life event; therefore, all participants could be questioned in detail about their reactions to this single event, their actions following the event, and any resource loss that occurred due to that event. In this way, the use of, or lack of, resource investment (i.e., social support, financial investment, use of prior knowledge) could be assessed more thoroughly. Moreover, participants' behaviors could be readily compared, and opportunities to invest resources following this specific event could be standardized across individuals. In this way, by directly examining available resources, and the use thereof, many of the alternate hypotheses for the findings within the current study could be dispelled.

A second limitation of the current study involves the population under investigation. Because this study involves a convenience sample of undergraduate students, the findings from this study may have limited generalizability. Attempts should be made to replicate findings from this study utilizing a random sample of people from the general population. In addition, the small number of participants within some cells in hypothesis seven made obtaining significant results difficult. After finding a medium to

large effect size (r = .45; Cohen, 1988) but statistically non-significant results for one of the groups high in traumatic life events (n = 16), a power analysis was completed to test for the number of participants that would have been needed to see this effect. Results of this power analysis indicated that having 68 participants within this cell would have made this finding statistically significant (Table 13). Therefore, future studies should attempt to obtain a larger sample size to account for this problem. However, results of this power analysis also indicated that the non-significant result found in hypothesis eight was not due to small group size, but was instead due to a truly small effect size (r = .10; Cohen, 1988). That is, resource loss appears to be a poor predictor of PTSD symptomology after accounting for life events. Power Analyses were also completed for all other statistical analyses within this study (see Table 13).

Third, there are a number of principles and corollaries of COR Theory that remain untested (Hobfoll & Lilly, 1993). At least two of these corollaries have to do with resource gain, which has rarely been addressed within the literature, and has not been assessed within the COR-E since Hobfoll, et al. (1992) developed the original 74-item measure. First, it has been hypothesized that those who have fewer resources are less capable of resource gain, and alternatively, those with greater resources are more capable of resource gain. Second, similar to the concept of loss spirals, it has been hypothesized that people can experience the process of gain spirals. That is, people who have gained resources in the past are increasingly more likely to gain resources in the future. Future studies should attempt to address the effects of such gain on individual outcome in addition to the effects of resource loss. This may be done either by examining the gain of

specific resources, or it may be done by again altering the COR-E to accommodate resource gain.

Non-confounded COR-E Differences

As discussed before, some researchers feel that independent variables should be decontaminated by removing items that overlap in content with any dependent variables of interest (Dohrenwend, et al., 1984). Within the current study, three new versions of the COR-E were created utilizing items judged to not overlap in content with items from the measures of psychological distress and PTSD symptom severity (resource loss at intake and follow-up, and expected resource loss at intake). Analyses involving any of the three original versions of the COR-E and either measure of distress, were also completed using these non-confounded versions. The pattern and magnitude of results was found to be similar when utilizing the non-confounded COR-E except within hypotheses eight and nine where they lessened the magnitude of results. One possible explanation for this change in significance is that it was due to a large amount of conceptual overlap between the measures of resource loss and distress. However, if this were true, one would expect that all associations between resource loss and distress would have been reduced, and this was not the case. In fact, even within analyses where the magnitude of results did decrease, these differences did not occur across all measures of resource loss (intake loss, follow-up loss, and intake expected loss).

It is therefore difficult to know how to interpret these findings. Lazarus, et al. (1985) suggested that some degree of confounding between the measurement of independent and dependent variables is inevitable. In this way, by removing some items and not others from the COR-E, we may have inadvertently removed items that correlated

highly with some measures of distress, but not others, or that correlated with measures of distress in some circumstances, but not others. This would explain why there were only changes in the magnitude of results within hypotheses eight and nine, and also why there was not a distinct pattern to these changes of significance. The removal of so-called overlapping items, therefore, may in fact involve the removal of random items that may be more or less individually correlated with other constructs of interest.

Future research should attempt to measure resource loss and psychological distress through differing methodologies so that issues relating to measure contamination do not exist. For example, resource loss could be measured through more behavioral methodologies (ie., direct observation, examination of savings and debt, surveys of home contents), and distress could be measured by either questionnaires or structured personal interviews. The utilization of behavioral methodologies to measure resource loss could also influence another limitation of the current study. That is, because resource loss and expected loss were assessed through nearly identical measures, participants may have developed a response set whereby they answered like questions in a similar manner. By measuring resource loss through more behavioral means in future research, this limitation could also be avoided.

Measure Limitations

Finally, the Conservation of Resources - Evaluation (COR-E) and the Posttraumatic Diagnostic Scale (PDS) have previously been discussed as having flaws that may have affected the results of the current study. The following sections will discuss each of these flaws. Recommendations will then be given for correcting or avoiding them in future studies of resource loss.

Conservation of Resources - Evaluation

As stated earlier, the measure currently utilized to evaluate resource loss, the COR-E, has a number of conceptual and pragmatic problems. First, to date, no study has been published demonstrating empirical evidence for the four theoretical resource categories proposed by COR Theory (object, energy, personal, and condition resources). In fact, factor analyses of various versions of this questionnaire have not yielded any stable factors across populations. Therefore, although the COR-E may theoretically sample from a number of resource loss categories, there is no empirical evidence that these categories exist beyond theory. Since no research to date has found empirical evidence of these four categories, it appears that either COR-E Theory should be revised to better reflect the results of the factor analyses; or that the validity and reliability of the COR-E should be re-evaluated in future studies.

Second, Hobfoll et al. (1992) attempted to solve the factor analysis problem by stating that they found the COR-E to be quite sensitive to developmental level and life situation. Therefore, the categorization of resources is hypothesized to change from one population to the next, since each population's values and life situations will differ. Since that finding, a number of authors have modified the COR-E to better suit the population they are examining (e.g., Evans, 1997; Freedy, et al., 1994; Freedy, et al., 1992; O'Neill, in press). A major problem with this tactic is that no standardization of the COR-E is possible if authors are continually adding and deleting items based on the population under investigation. Future studies should develop a minimal set of items to be utilized within all studies using the COR-E; in this way, comparisons between studies could be made. In addition, sets of additional items could be established to add to the COR-E for

various populations (i.e., victims of natural disasters, college students, psychiatric inpatients). Therefore, if authors feel the need to alter the COR-E to suit their population of interest, there could still be some standardization in the choice of items used.

Third, items were chosen for the COR-E through a group process that has not been specified within the literature. Furthermore, when this process was replicated, additional resources were reportedly named, but none were included within the COR-E. Future research may wish to again replicate this process, and possibly restructure the COR-E by adding items if needed.

In addition to the above limitations, there are also issues regarding the psychometric data currently available on the COR-E. While evaluating the original 72-item COR-E, Hobfoll et al. (1992) hypothesized that there would be a moderately high level of test-retest reliability because there would be low test-retest reliability if reporting was mainly influenced by mood; and there would be a high test-retest reliability if individuals were reporting a more trait-like representation of their resources. Future research may wish to re-evaluate the test-retest reliability of the COR-E by testing people at three time periods, once, two days following the original administration (testing for actual test-retest reliability), and a third time, one month following the original administration (testing for the non-trait-like representation of resources). In this way, the findings of Hobfoll et al. (1992) could be confirmed utilizing more appropriate methodologies.

Finally, since the loss of resources is proposed to occur following potentially stressful events, the COR-E could also be conceptualized as an outcome measure. One could argue that since this potential outcome measure is being used to predict symptom scores on other outcome measures, it is not surprising that the COR-E is a good predictor

of psychological distress. However, the COR Model proposes that resources are not an outcome, no more so than emotional focused coping would be considered an outcome within the CMR Theory. Like CMR Theory's concept of coping, resources are viewed as either sustaining (resource deficit) or suspending (resource surplus) the development of psychological distress. Future studies should further attempt to distinguish between the concepts of loss and distress by utilizing prospective designs that account for participant distress prior to the occurrence of an event that directly brings about resource loss.

Posttraumatic Diagnostic Scale

The current use of the Posttraumatic Diagnostic Scale (PDS; Foa, et al., 1997) also contains flaws that may have debased the results of the current study. The PDS assesses for the experience and impact of traumatic life events; however, this measure does not address the cumulative effects of multiple traumas. The PDS, as administered within the current study, allows participants to choose amongst a number of more common traumatic events, and then asks them to discuss their reactions to the most disturbing of those events. Because participants are not questioned about any other traumatic life events, a great deal of valuable information may be lost about those experiences. Also, the PDS was designed to be a screening measure for traumatic experience and related symptomology; it was not designed for use as a comprehensive measure of traumatic life event experience and outcome. Future studies should attempt to address chronic affects of multiple traumatic life events, and their effects on resource loss. If possible, this should be done by utilizing procedures that can also thoroughly account for the victim's experience.

Conclusions

Results generally supported this study's nine hypotheses. The concepts of resource loss and expected resource loss were found to be highly associated with psychological distress and the PTSD symptomology. This study also found support for the idea that those who experience resource loss may take a defensive posture, avoiding the risk of their remaining resources. In addition, the concept of loss spirals was also supported in that those who had consistently high levels of resource loss also had the highest levels of psychological distress. Finally, resource loss was more important than the constructs of major, minor, or traumatic life events in predicting psychological distress; while it was the second best predictor of PTSD symptomology. If COR Theory continues to gain such empirical support it may acquire more importance as a general stress theory.

Currently, Lazarus' (1993) CMR Theory of Stress is the most heavily researched theory of stress. However, its overlapping constructs and extreme complexity make it difficult to empirically prove or disprove causality within the model. Conversely, because COR Theory does not focus on elaborate cognitive constructs, it lends itself more easily to possible rejection. In addition, COR Theory maintains the ability to predict behavior without the occurrence of a stressor, while CMR Theory, which relies on coping responses to determine outcome, can not account for non-event-induced actions.

Finally, although COR Theory continues to gain empirical support, several issues remain to be addressed. First, research should inform and lead to potential change within a model. However, in the face of results to the contrary, COR Theory maintains its original conception of four resource categories. The COR Model may need to alter the notion of resource categories, or drop the category system all together. Furthermore,

issues relating to the COR-E need to be addressed within the literature. If this measure is to obtain a higher status within the study of stress, either a standard set of items or a standardized system for adding or deleting items to account for a specific population must be developed. Only after these issues are addressed will the concept of resource loss gain acceptance as the antecedent of psychological distress.

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APPENDIXES

APPENDIX A

INTAKE SURVEY

Subject Number	Date
_____	_____

For Office Use Only Spring 1999 Phase 1	Entered	Verified
	_____	_____

1. How old are you?_____ **2. What is your gender?**_____

3. What is your primary race or ethnic origin (circle one)?

1) Caucasian
2) Native American
3) Asian
4) African-American/ Black
5) Hispanic
6) Other (specify)_____

4. How would you best describe your current relationship status (circle one)?

1) Single, no current relationship
2) Unmarried, in a committed relationship
3) Married
4) Other (specify)_____

5. Do you have any children (circle one)?

YES NO If so, how many? _____

6. How would you best describe your current living situation (circle one)?

1) Live on campus or in a rental with others
2) Live alone
3) Live with family
4) Other (specify)_____

7. How important is religion to you? (please circle)

0	1	2	3	4
Not At All	A Little Bit	Moderately	Quite A Bit	Extremely

8. How many friends and relatives do you feel close to (please write in the number)? _____

9. How satisfied are you with the number of close relationships that you have?

0	1	2	3	4
Not At All	A Little Bit	Moderately	Quite A Bit	Extremely

10. How close have you felt to your closest friends and relatives this last year?

0	1	2	3	4
Not At All	A Little Bit	Moderately	Quite A Bit	Extremely

11. How satisfied have you been with the closeness of the relationship this last year?

0	1	2	3	4
Not At All	A Little Bit	Moderately	Quite A Bit	Extremely

12. How often have you turned to your close friends or relatives for support this last year?

0	1	2	3	4
Not At All	A Little Bit	Moderately	Quite A Bit	A Lot

******Please Turn Over and Complete on Reverse******

WSI

INSTRUCTIONS:

Listed below are a variety of events that may be viewed as stressful or unpleasant. Read each item carefully and decide whether or not that event happened to you DURING THIS PAST WEEK. If the event did not happen this week, circle the "X" to the right of that item. If the event did happen, show the amount of stress that it caused you by circling a number from 1 to 7 to the right of that item (see scale below). Additionally, if the event happened 3 or more times during the past week, put a check in the blank to the right of that item.

EXAMPLE: Example 1 is of an event that did not occur this past week. Example 2 occurred 4 times this past week and was very stressful.

		DID NOT HAPPEN	SLIGHTLY STRESSFUL NOT STRESSFUL		MODERATELY STRESSFUL MILDLY STRESSFUL		VERY STRESSFUL STRESSFUL		EXTREMELY STRESSFUL 3 OR MORE TIMES THIS WEEK	
1. Had a hangnail	1	X	1	2	3	4	5	6	7	
2. Computer didn't work	2	X	1	2	3	4	5	6	7	

		DID NOT HAPPEN	SLIGHTLY STRESSFUL NOT STRESSFUL		MODERATELY STRESSFUL MILDLY STRESSFUL		VERY STRESSFUL STRESSFUL		EXTREMELY STRESSFUL 3 OR MORE TIMES THIS WEEK	
1. Had a job or assignment overdue	1	X	1	2	3	4	5	6	7	
2. Bothered with red tape	2	X	1	2	3	4	5	6	7	
3. Argued with a coworker	3	X	1	2	3	4	5	6	7	
4. Customers or clients gave you a hard time	4	X	1	2	3	4	5	6	7	
5. Did poorly at a job, task, or chore	5	X	1	2	3	4	5	6	7	
6. Hurried to meet a deadline	6	X	1	2	3	4	5	6	7	
7. Was interrupted during a job, task, activity, or thinking	7	X	1	2	3	4	5	6	7	
8. Someone spoiled your completed job, task, or chore	8	X	1	2	3	4	5	6	7	
9. Did something you were not good at	9	X	1	2	3	4	5	6	7	
10. Unable to finish job, task, or chore	10	X	1	2	3	4	5	6	7	
11. Unable to finish all plans for the week	11	X	1	2	3	4	5	6	7	
12. Was late for work or appointment	12	X	1	2	3	4	5	6	7	
13. Was graded or evaluated on your performance	13	X	1	2	3	4	5	6	7	
14. Worked late or overtime	14	X	1	2	3	4	5	6	7	
15. Not enough money for basics (food, clothing, etc.)	15	X	1	2	3	4	5	6	7	
16. Ran out of pocket money	16	X	1	2	3	4	5	6	7	
17. Had unexpected bills (traffic fines, etc.)	17	X	1	2	3	4	5	6	7	
18. Had problems paying bills	18	X	1	2	3	4	5	6	7	
19. Not enough money for fun (movie, eating out) or recreation	19	X	1	2	3	4	5	6	7	

******Please Continue on the Next Page******

WSI (continued)

		DID NOT HAPPEN	NOT STRESSFUL	SLIGHTLY STRESSFUL	MILDLY STRESSFUL	MODERATELY STRESSFUL	VERY STRESSFUL	EXTREMELY STRESSFUL	FOR MORE TIMES THIS WEEK	
56. Was interrupted while talking	56	X	1	2	3	4	5	6	7	
57. Was stared at	57	X	1	2	3	4	5	6	7	
58. Had someone "cut" in front of you	58	X	1	2	3	4	5	6	7	
59. Unable to express self clearly	59	X	1	2	3	4	5	6	7	
60. Had unwanted physical contact (crowded)	60	X	1	2	3	4	5	6	7	
61. Dealt with rude waiter, waitress, or salesperson	61	X	1	2	3	4	5	6	7	
62. Was without privacy	62	X	1	2	3	4	5	6	7	
63. Was excluded or left out	63	X	1	2	3	4	5	6	7	
64. Had too many responsibilities	64	X	1	2	3	4	5	6	7	
65. Had to make important decision	65	X	1	2	3	4	5	6	7	
66. Did not hear from someone you expected to	66	X	1	2	3	4	5	6	7	
67. Was disturbed while trying to sleep	67	X	1	2	3	4	5	6	7	
68. Forgot something	68	X	1	2	3	4	5	6	7	
69. Heard some bad news	69	X	1	2	3	4	5	6	7	
70. Was clumsy (spilled or knocked something over)	70	X	1	2	3	4	5	6	7	
71. Lost or misplaced something (wallet, keys)	71	X	1	2	3	4	5	6	7	
72. Had legal problems	72	X	1	2	3	4	5	6	7	
73. Waited longer than you wanted	73	X	1	2	3	4	5	6	7	
74. Did something you did not want to do	74	X	1	2	3	4	5	6	7	
75. Had to face a feared situation or object	75	X	1	2	3	4	5	6	7	
76. Had "pet peeve" violated (someone fails to knock, etc.)	76	X	1	2	3	4	5	6	7	
77. Failed to understand something	77	X	1	2	3	4	5	6	7	
78. Had close escape from danger	78	X	1	2	3	4	5	6	7	
79. Had minor accident (broke something, tore clothing)	79	X	1	2	3	4	5	6	7	
80. Someone borrowed something without asking	80	X	1	2	3	4	5	6	7	
81. Had minor injury (stubbed toe, sprained ankle, etc.)	81	X	1	2	3	4	5	6	7	
82. Was physically uncomfortable (cold, wet, hungry)	82	X	1	2	3	4	5	6	7	
83. Stopped unwanted habit (smoking, overeating, etc.)	83	X	1	2	3	4	5	6	7	
84. Interrupted while relaxing	84	X	1	2	3	4	5	6	7	
85. Not enough time for fun (movie, eating out) or recreation	85	X	1	2	3	4	5	6	7	
86. Did poorly at a sport or game	86	X	1	2	3	4	5	6	7	
87. Saw an upsetting TV show, movie, or read an upsetting book, etc.	87	X	1	2	3	4	5	6	7	
Any we missed? (List below)										
88.	88	X	1	2	3	4	5	6	7	
89.	89	X	1	2	3	4	5	6	7	

******Please Continue on the Next Page******

WSI (continued)

		DID NOT HAPPEN	NOT STRESSFUL	SLIGHTLY STRESSFUL	MILDLY STRESSFUL	MODERATELY STRESSFUL	STRESSFUL	VERY STRESSFUL	EXTREMELY STRESSFUL	5 OR MORE TIMES THIS WEEK
20.	Had problem obtaining ride or transportation	20	X	1	2	3	4	5	6	7
21.	Drove under bad conditions (traffic, weather)	21	X	1	2	3	4	5	6	7
22.	Had car trouble	22	X	1	2	3	4	5	6	7
23.	Had minor auto accident	23	X	1	2	3	4	5	6	7
24.	Argued with husband, wife, boyfriend, or girlfriend	24	X	1	2	3	4	5	6	7
25.	Child misbehaved	25	X	1	2	3	4	5	6	7
26.	Child had school problems	26	X	1	2	3	4	5	6	7
27.	Minor illness of husband, wife, child, or loved one	27	X	1	2	3	4	5	6	7
28.	Husband or wife had problems at work	28	X	1	2	3	4	5	6	7
29.	Not enough time for family and friends	29	X	1	2	3	4	5	6	7
30.	Had crime in the neighborhood	30	X	1	2	3	4	5	6	7
31.	Had household chores (shopping, cooking, etc.)	31	X	1	2	3	4	5	6	7
32.	Had minor home repairs	32	X	1	2	3	4	5	6	7
33.	Had problems with neighbors	33	X	1	2	3	4	5	6	7
34.	Ran out of food or personal item	34	X	1	2	3	4	5	6	7
35.	Your property was damaged	35	X	1	2	3	4	5	6	7
36.	Store did not have something you wanted	36	X	1	2	3	4	5	6	7
37.	Had problems with pet (dog, cat, etc.)	37	X	1	2	3	4	5	6	7
38.	Heard a rumor or something bad about yourself	38	X	1	2	3	4	5	6	7
39.	Was told what to do	39	X	1	2	3	4	5	6	7
40.	Was lied to, fooled or tricked	40	X	1	2	3	4	5	6	7
41.	Was misunderstood or misquoted	41	X	1	2	3	4	5	6	7
42.	Had confrontation with someone of authority (police, boss)	42	X	1	2	3	4	5	6	7
43.	Was criticized or verbally attacked	43	X	1	2	3	4	5	6	7
44.	Was around unpleasant people (drunk, bigot, rude)	44	X	1	2	3	4	5	6	7
45.	Had unexpected guests	45	X	1	2	3	4	5	6	7
46.	Did poorly because of others	46	X	1	2	3	4	5	6	7
47.	Was forced to socialize	47	X	1	2	3	4	5	6	7
48.	Someone broke a promise	48	X	1	2	3	4	5	6	7
49.	Someone broke an appointment	49	X	1	2	3	4	5	6	7
50.	Competed with someone	50	X	1	2	3	4	5	6	7
51.	Argued with a friend	51	X	1	2	3	4	5	6	7
52.	Not enough time to socialize	52	X	1	2	3	4	5	6	7
53.	Was ignored by others	53	X	1	2	3	4	5	6	7
54.	Had someone disagree with you	54	X	1	2	3	4	5	6	7
55.	Spoke or performed in public	55	X	1	2	3	4	5	6	7

******Please Turn Over and Complete on Reverse******

LES

INSTRUCTIONS:

Listed below are a number of events which sometimes bring about change in the lives of those who experience them and which necessitate social readjustment. Read each item carefully and decide whether or not that event happened to you *since you first participated in this study, earlier this semester.*

If the event did not happen since you first participated in this study, circle the "X" to the right of the item. If the event did happen, please indicate the extent to which you viewed the event as having either a positive or negative impact on your life AT THE TIME THE EVENT OCCURRED by circling a number from -3 to +3 to the right of the item. (A rating of -3 would indicate an extremely negative impact. A rating of 0 suggests no impact either positive or negative. A rating of +3 would indicate an extremely positive impact.)

EXAMPLE: This example is of an event that occurred 1 month ago that had a somewhat negative impact.

		DID NOT HAPPEN	EXTREMELY NEGATIVE	MODERATELY NEGATIVE	SOMEWHAT NEGATIVE	NO IMPACT	SLIGHTLY POSITIVE	MODERATELY POSITIVE	EXTREMELY POSITIVE
		X	-3	-2	-1	0	+1	+2	+3
1. Attacked by a dog	1				(-1)				

		DID NOT HAPPEN	EXTREMELY NEGATIVE	MODERATELY NEGATIVE	SOMEWHAT NEGATIVE	NO IMPACT	SLIGHTLY POSITIVE	MODERATELY POSITIVE	EXTREMELY POSITIVE
		X	-3	-2	-1	0	+1	+2	+3
1. Marriage	1								
2. Detention in jail or comparable institution	2								
3. Death of spouse	3								
4. Major change in sleeping habits (much more or less sleep)	4								
5. Death of close family member:									
a. mother	5a								
b. father	b								
c. brother	c								
d. sister	d								
e. grandmother	e								
f. grandfather	f								
g. other (specify)	g								
6. Major change in eating habits (much more or less intake)	6								
7. Foreclosure on mortgage or loan	7								
8. Death of close friend	8								
9. Outstanding personal achievement	9								
10. Minor law violation (traffic tickets, disturbing the peace, etc.)	10								
11. *Male*: Wife/girlfriends pregnancy	11								
12. *Female*: Pregnancy	12								

******Please Turn Over and Complete on Reverse******

LES (continued)

		DID NOT HAPPEN	EXTREMELY NEGATIVE	MODERATELY NEGATIVE	SOMEWHAT NEGATIVE	NO IMPACT	SLIGHTLY POSITIVE	MODERATELY POSITIVE	EXTREMELY POSITIVE
13. Changed work situation (different work responsibility, major change in working conditions, working hours, etc.)	13	X	-3	-2	-1	0	+1	+2	+3
14. New job	14	X	-3	-2	-1	0	+1	+2	+3
15. Serious illness or injury of close family member:									
a. father	15a	X	-3	-2	-1	0	+1	+2	+3
b. mother	b	X	-3	-2	-1	0	+1	+2	+3
c. sister	c	X	-3	-2	-1	0	+1	+2	+3
d. brother	d	X	-3	-2	-1	0	+1	+2	+3
e. grandfather	e	X	-3	-2	-1	0	+1	+2	+3
f. grandmother	f	X	-3	-2	-1	0	+1	+2	+3
g. spouse	g	X	-3	-2	-1	0	+1	+2	+3
h. other (specify)	h	X	-3	-2	-1	0	+1	+2	+3
16. Sexual difficulties	16	X	-3	-2	-1	0	+1	+2	+3
17. Trouble with employer (in danger of losing job, being suspended, demoted, etc.)	17	X	-3	-2	-1	0	+1	+2	+3
18. Trouble with in-laws	18	X	-3	-2	-1	0	+1	+2	+3
19. Major change in financial status (a lot better or worse off)	19	X	-3	-2	-1	0	+1	+2	+3
20. Major change in closeness of family members (increased or decreased closeness)	20	X	-3	-2	-1	0	+1	+2	+3
21. Gaining a new family member (through birth, adoption, family member moving in, etc.)	21	X	-3	-2	-1	0	+1	+2	+3
22. Change of residence	22	X	-3	-2	-1	0	+1	+2	+3
23. Marital separation from mate (due to conflict)	23	X	-3	-2	-1	0	+1	+2	+3
24. Major change in church activities (increased or decreased attendance)	24	X	-3	-2	-1	0	+1	+2	+3
25. Marital reconciliation with mate	25	X	-3	-2	-1	0	+1	+2	+3
26. Major change in number of arguments with spouse (a lot more or less arguments)	26	X	-3	-2	-1	0	+1	+2	+3
27. *Married male*: Change in wife's work outside the home (beginning work, ceasing work, new job, etc.)	27	X	-3	-2	-1	0	+1	+2	+3
28. *Married female*: Change in husband's work outside the home (loss of job, new job, retirement, etc.)	28	X	-3	-2	-1	0	+1	+2	+3
29. Major change in usual type or amount or recreation	29	X	-3	-2	-1	0	+1	+2	+3
30. Borrowing more than $10,000 (buying home, business, etc.)	30	X	-3	-2	-1	0	+1	+2	+3
31. Borrowing less than $10,000 (buying car, TV, getting school loan, etc.)	31	X	-3	-2	-1	0	+1	+2	+3
32. Being fired from job	32	X	-3	-2	-1	0	+1	+2	+3
33. *Male*: Wife/girlfriend having abortion	33	X	-3	-2	-1	0	+1	+2	+3
34. *Female*: Having abortion	34	X	-3	-2	-1	0	+1	+2	+3

******Please Continue on the Next Page******

LES (continued)

		DID NOT HAPPEN	EXTREMELY NEGATIVE	MODERATELY NEGATIVE	SOMEWHAT NEGATIVE	NO IMPACT	SLIGHTLY POSITIVE	MODERATELY POSITIVE	EXTREMELY POSITIVE
35. Major personal illness or injury	35	X	-3	-2	-1	0	+1	+2	+3
36. Major change in social activities, e.g., parties, movies, visiting (increased or decreased participation)	36	X	-3	-2	-1	0	+1	+2	+3
37. Major change in living conditions of family (building new home, remodeling, deterioration of home, neighborhood, etc.)	37	X	-3	-2	-1	0	+1	+2	+3
38. Divorce	38	X	-3	-2	-1	0	+1	+2	+3
39. Serious injury or illness of close friend	39	X	-3	-2	-1	0	+1	+2	+3
40. Retirement from work	40	X	-3	-2	-1	0	+1	+2	+3
41. Son or daughter leaving home (due to marriage, college, etc.)	41	X	-3	-2	-1	0	+1	+2	+3
42. Ending of formal schooling	42	X	-3	-2	-1	0	+1	+2	+3
43. Separation from spouse (due to work, travel, etc.)	43	X	-3	-2	-1	0	+1	+2	+3
44. Engagement	44	X	-3	-2	-1	0	+1	+2	+3
45. Breaking up with boyfriend/girlfriend	45	X	-3	-2	-1	0	+1	+2	+3
46. Leaving home for the first time	46	X	-3	-2	-1	0	+1	+2	+3
47. Reconciliation with boyfriend/girlfriend	47	X	-3	-2	-1	0	+1	+2	+3
Other recent experiences which had an impact on your life. List and rate.									
48.	48	X	-3	-2	-1	0	+1	+2	+3
49.	49	X	-3	-2	-1	0	+1	+2	+3
50.	50	X	-3	-2	-1	0	+1	+2	+3
Numbers 51-60 Students only.									
51. Beginning a new school experience at a higher academic level (college, graduate school, professional school, etc.)	51	X	-3	-2	-1	0	+1	+2	+3
52. Changing to a new school at same academic level (undergraduate, graduate, etc.)	52	X	-3	-2	-1	0	+1	+2	+3
53. Academic probation	53	X	-3	-2	-1	0	+1	+2	+3
54. Being dismissed from dormitory or other residence	54	X	-3	-2	-1	0	+1	+2	+3
55. Failing an important exam	55	X	-3	-2	-1	0	+1	+2	+3
56. Changing a major	56	X	-3	-2	-1	0	+1	+2	+3
57. Failing a course	57	X	-3	-2	-1	0	+1	+2	+3
58. Dropping a course	58	X	-3	-2	-1	0	+1	+2	+3
59. Joining a fraternity/sorority	59	X	-3	-2	-1	0	+1	+2	+3
60. Financial problems concerning school (in danger of not having sufficient money to continue)	60	X	-3	-2	-1	0	+1	+2	+3

******Please Turn Over and Complete on Reverse******

BSI

INSTRUCTIONS:

Below is a list of problems people sometimes have. Please read each one carefully, and circle the number to the right that best describes HOW MUCH THAT PROBLEM HAS DISTRESSED OR BOTHERED YOU DURING THE PAST MONTH. Circle only one number for each problem and do not skip any items. If you change your mind, erase your first mark carefully. Read the example below before beginning, and if you have any questions please ask about them.

EXAMPLE HOW MUCH WERE YOU DISTRESSED BY:		NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	EXTREMELY
1. Bodyaches	1	0	1	2	3	4

HOW MUCH WERE YOU DISTRESSED BY:		NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	EXTREMELY
1. Nervousness or shakiness inside	1	0	1	2	3	4
2. Faintness or dizziness	2	0	1	2	3	4
3. The idea that someone else can control your thoughts	3	0	1	2	3	4
4. Feeling others are to blame for most of your troubles	4	0	1	2	3	4
5. Trouble remembering things	5	0	1	2	3	4
6. Feeling easily annoyed or irritated	6	0	1	2	3	4
7. Pains in heart or chest	7	0	1	2	3	4
8. Feeling afraid in open spaces or on the streets	8	0	1	2	3	4
9. Thoughts of ending your life	9	0	1	2	3	4
10. Feeling that most people cannot be trusted	10	0	1	2	3	4
11. Poor appetite	11	0	1	2	3	4
12. Suddenly scared for no reason	12	0	1	2	3	4
13. Temper outbursts that you could not control	13	0	1	2	3	4
14. Feeling lonely even when you are with people	14	0	1	2	3	4
15. Feeling blocked in getting things done	15	0	1	2	3	4
16. Feeling lonely	16	0	1	2	3	4
17. Feeling blue	17	0	1	2	3	4
18. Feeling no interest in things	18	0	1	2	3	4
19. Feeling fearful	19	0	1	2	3	4
20. Your feelings being easily hurt	20	0	1	2	3	4
21. Feeling that people are unfriendly or dislike you	21	0	1	2	3	4
22. Feeling inferior to others	22	0	1	2	3	4

******Please Continue on the Next Page******

HOW MUCH WERE YOU DISTRESSED BY:		NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	EXTREMELY
23. Nausea or upset stomach	23	0	1	2	3	4
24. Feeling that you are watched or talked about by others	24	0	1	2	3	4
25. Trouble falling asleep	25	0	1	2	3	4
26. Having to check and double check what you do	26	0	1	2	3	4
27. Difficulty making decisions	27	0	1	2	3	4
28. Feeling afraid to travel on buses, subways, or trains	28	0	1	2	3	4
29. Trouble getting your breath	29	0	1	2	3	4
30. Hot or cold spells	30	0	1	2	3	4
31. Having to avoid certain things, places, or activities because they frighten you	31	0	1	2	3	4
32. Your mind going blank	32	0	1	2	3	4
33. Numbness or tingling in parts of your body	33	0	1	2	3	4
34. The idea that you should be punished for your sins	34	0	1	2	3	4
35. Feeling hopeless about the future	35	0	1	2	3	4
36. Trouble concentrating	36	0	1	2	3	4
37. Feeling weak in parts of your body	37	0	1	2	3	4
38. Feeling tense or keyed up	38	0	1	2	3	4
39. Thoughts of death or dying	39	0	1	2	3	4
40. Having urges to beat, injure, or harm someone	40	0	1	2	3	4
41. Having urges to break or smash things	41	0	1	2	3	4
42. Feeling very self-conscious with others	42	0	1	2	3	4
43. Feeling uneasy in crowds, such as shopping or at a movie	43	0	1	2	3	4
44. Never feeling close to another person	44	0	1	2	3	4
45. Spells of terror or panic	45	0	1	2	3	4
46. Getting into frequent arguments	46	0	1	2	3	4
47. Feeling nervous when you are left alone	47	0	1	2	3	4
48. Others not giving you proper credit for your achievements	48	0	1	2	3	4
49. Feeling so restless you couldn't sit still	49	0	1	2	3	4
50. Feelings of worthlessness	50	0	1	2	3	4
51. Feeling that people will take advantage of you if you let them	51	0	1	2	3	4
52. Feelings of guilt	52	0	1	2	3	4
53. The idea that something is wrong with your mind	53	0	1	2	3	4

******Please Turn Over and Complete on Reverse******

COR - PRE

INSTRUCTIONS:

Listed below are a number of things which make life easier and/or more enjoyable. You may have recently experienced a loss of some of these resources. Please read each one carefully, and circle the number to the right that best describes how much you have experienced a loss in that resource IN THE PAST MONTH. Please circle only one number for each resource and do not skip any items.

EXAMPLE HOW MUCH HAVE YOU EXPERIENCED A LOSS IN		NO LOSS	A LITTLE BIT	MODERATE AMOUNT	QUITE A BIT	EXTREME AMOUNT
1. Schoolwork	1	0	1	2	3	4

HOW MUCH HAVE YOU EXPERIENCED A LOSS IN:		NO LOSS	A LITTLE BIT	MODERATE AMOUNT	QUITE A BIT	EXTREME AMOUNT
1. Personal transportation	1	0	1	2	3	4
2. Home contents (furnishings)	2	0	1	2	3	4
3. Time for adequate sleep	3	0	1	2	3	4
4. Sentimental possessions (photo albums, etc.)	4	0	1	2	3	4
5. Clothing	5	0	1	2	3	4
6. Feeling valuable to others	6	0	1	2	3	4
7. Family stability	7	0	1	2	3	4
8. "Free time"	8	0	1	2	3	4
9. Pets	9	0	1	2	3	4
10. Vegetation on your property (trees, shrubs, etc.)	10	0	1	2	3	4
11. Intimacy with one or more family members	11	0	1	2	3	4
12. Time for work	12	0	1	2	3	4
13. Feeling that I am accomplishing my goals	13	0	1	2	3	4
14. Relationship with my children	14	0	1	2	3	4
15. Time with loved ones	15	0	1	2	3	4
16. Necessary tools for work	16	0	1	2	3	4
17. Stamina or endurance	17	0	1	2	3	4
18. Adequate food	18	0	1	2	3	4
19. Daily routine	19	0	1	2	3	4
20. Personal health	20	0	1	2	3	4
21. Sense of optimism	21	0	1	2	3	4
22. Necessary appliances for my home	22	0	1	2	3	4
23. Personal residence	23	0	1	2	3	4
24. Sense of humor	24	0	1	2	3	4

******Please Continue on the Next Page******

COR - PRE (continued)

HOW MUCH HAVE YOU EXPERIENCED A LOSS IN:		0 NO LOSS	1 A LITTLE BIT	2 MODERATE AMOUNT	3 QUITE A BIT	4 EXTREME AMOUNT
25. Stable employment	25	0	1	2	3	4
26. Feeling that I have control over my life	26	0	1	2	3	4
27. Essentials for children	27	0	1	2	3	4
28. Feeling that my life is peaceful	28	0	1	2	3	4
29. Ability to organize tasks	29	0	1	2	3	4
30. Intimacy with at least one friend	30	0	1	2	3	4
31. Money for "extras"	31	0	1	2	3	4
32. Understanding from my employer or boss	32	0	1	2	3	4
33. Savings or emergency money	33	0	1	2	3	4
34. Motivation to get things done	34	0	1	2	3	4
35. Support from co-workers	35	0	1	2	3	4
36. Adequate income	36	0	1	2	3	4
37. Advancement in my education or training	37	0	1	2	3	4
38. Adequate credit (financial)	38	0	1	2	3	4
39. Feeling independent	39	0	1	2	3	4
40. Companionship	40	0	1	2	3	4
41. Financial assets (stocks, property, etc.)	41	0	1	2	3	4
42. Affection from others	42	0	1	2	3	4
43. Feeling that my life has meaning or purpose	43	0	1	2	3	4
44. Involvement with church, synagogue, etc.	44	0	1	2	3	4
45. Retirement security (financial)	45	0	1	2	3	4
46. Help with tasks at home	46	0	1	2	3	4
47. Loyalty of friends	47	0	1	2	3	4
48. Help with childcare	48	0	1	2	3	4
49. Involvement in organizations with others who have similar interests	49	0	1	2	3	4
50. Financial help if needed	50	0	1	2	3	4
51. Health of family or close friends	51	0	1	2	3	4
52. Positive feelings about myself	52	0	1	2	3	4
53. Hope	53	0	1	2	3	4
54. Feeling that I am successful	54	0	1	2	3	4
55. Financial stability	55	0	1	2	3	4
56. Money for advancement or self-improvement (education, starting a business)	56	0	1	2	3	4
57. Advancement in my education or training	57	0	1	2	3	4
58. Feeling my future success depends on me	58	0	1	2	3	4
59. Knowing where I am going with my life	59	0	1	2	3	4
60. Sense of pride in myself	60	0	1	2	3	4

******Please Turn Over and Complete on Reverse******

COR - EXP

INSTRUCTIONS:

Before, **you were asked about losses experienced in the past month. Now, I would like you to read each resource below, and circle the number to the right that best describes how much you EXPECT TO HAVE A LOSS in that resource DURING THIS SEMESTER. Please circle only one number for each resource and do not skip any items.**

EXAMPLE

HOW MUCH DO YOU EXPECT A LOSS IN		NO LOSS	A LITTLE BIT	MODERATE AMOUNT	QUITE A BIT	EXTREME AMOUNT	
1. Schoolwork	1	0	1	2	3	4	

HOW MUCH DO YOU EXPECT A LOSS IN:		NO LOSS	A LITTLE BIT	MODERATE AMOUNT	QUITE A BIT	EXTREME AMOUNT	
1. Personal transportation	1	0	1	2	3	4	
2. Home contents (furnishings)	2	0	1	2	3	4	
3. Time for adequate sleep	3	0	1	2	3	4	
4. Sentimental possessions (photo albums, etc.)	4	0	1	2	3	4	
5. Clothing	5	0	1	2	3	4	
6. Feeling valuable to others	6	0	1	2	3	4	
7. Family stability	7	0	1	2	3	4	
8. "Free time"	8	0	1	2	3	4	
9. Pets	9	0	1	2	3	4	
10. Vegetation on your property (trees, shrubs, etc.)	10	0	1	2	3	4	
11. Intimacy with one or more family members	11	0	1	2	3	4	
12. Time for work	12	0	1	2	3	4	
13. Feeling that I am accomplishing my goals	13	0	1	2	3	4	
14. Relationship with my children	14	0	1	2	3	4	
15. Time with loved ones	15	0	1	2	3	4	
16. Necessary tools for work	16	0	1	2	3	4	
17. Stamina or endurance	17	0	1	2	3	4	
18. Adequate food	18	0	1	2	3	4	
19. Daily routine	19	0	1	2	3	4	
20. Personal health	20	0	1	2	3	4	
21. Sense of optimism	21	0	1	2	3	4	
22. Necessary appliances for my home	22	0	1	2	3	4	
23. Personal residence	23	0	1	2	3	4	
24. Sense of humor	24	0	1	2	3	4	

******Please Turn Over and Complete on Reverse******

COR - EXP (continued)

HOW MUCH DO YOU EXPECT A LOSS IN:		NO LOSS	A LITTLE BIT	MODERATE AMOUNT	QUITE A BIT	EXTREME AMOUNT
25. Stable employment	25	0	1	2	3	4
26. Feeling that I have control over my life	26	0	1	2	3	4
27. Essentials for children	27	0	1	2	3	4
28. Feeling that my life is peaceful	28	0	1	2	3	4
29. Ability to organize tasks	29	0	1	2	3	4
30. Intimacy with at least one friend	30	0	1	2	3	4
31. Money for "extras"	31	0	1	2	3	4
32. Understanding from my employer or boss	32	0	1	2	3	4
33. Savings or emergency money	33	0	1	2	3	4
34. Motivation to get things done	34	0	1	2	3	4
35. Support from co-workers	35	0	1	2	3	4
36. Adequate income	36	0	1	2	3	4
37. Advancement in my education or training	37	0	1	2	3	4
38. Adequate credit (financial)	38	0	1	2	3	4
39. Feeling independent	39	0	1	2	3	4
40. Companionship	40	0	1	2	3	4
41. Financial assets (stocks, property, etc.)	41	0	1	2	3	4
42. Affection from others	42	0	1	2	3	4
43. Feeling that my life has meaning or purpose	43	0	1	2	3	4
44. Involvement with church, synagogue, etc.	44	0	1	2	3	4
45. Retirement security (financial)	45	0	1	2	3	4
46. Help with tasks at home	46	0	1	2	3	4
47. Loyalty of friends	47	0	1	2	3	4
48. Help with childcare	48	0	1	2	3	4
49. Involvement in organizations with others who have similar interests	49	0	1	2	3	4
50. Financial help if needed	50	0	1	2	3	4
51. Health of family or close friends	51	0	1	2	3	4
52. Positive feelings about myself	52	0	1	2	3	4
53. Hope	53	0	1	2	3	4
54. Feeling that I am successful	54	0	1	2	3	4
55. Financial stability	55	0	1	2	3	4
56. Money for advancement or self-improvement (education, starting a business)	56	0	1	2	3	4
57. Advancement in my education or training	57	0	1	2	3	4
58. Feeling my future success depends on me	58	0	1	2	3	4
59. Knowing where I am going with my life	59	0	1	2	3	4
60. Sense of pride in myself	60	0	1	2	3	4

******Please Continue on the Next Page******

Traumatic Events

Many people have lived through or witnessed a very stressful and traumatic event at some point in their lives. Below is a list of traumatic events. Put a checkmark in the box next to ALL of the events that have happened to you or that you have witnessed.

1. ❑ Serious accident, fire, or explosion (for example, an industrial, farm, car, plane, or boating accident)
2. ❑ Natural disaster (for example, tornado, hurricane, flood, or major earthquake)
3. ❑ Non-sexual assault by a family member or someone you know (for example, being mugged, physically attacked, shot, stabbed, or held at gunpoint)
4. ❑ Non-sexual assault by a stranger (for example, being mugged, physically attacked, shot, stabbed, or held at gunpoint)
5. ❑ Sexual assault by a family member or someone you know (for example, rape or attempted rape)
6. ❑ Sexual assault by a stranger (for example, rape or attempted rape)
7. ❑ Military combat or a war zone
8. ❑ Sexual contact when you were younger than 18 with someone who was 5 or more years older than you (for example, contact with genitals, breasts)
9. ❑ Imprisonment (for example, prison inmate, prisoner of war, hostage)
10. ❑ Torture
11. ❑ Life-threatening illness
12. ❑ Other traumatic event
13. If you marked item 12, specify the traumatic event below.

_____

_____

If you checked **one box** above, go to part 1-A on the next page.
If you checked **more than one box** above, go to Part 1-B on the next page.
If you **did not check any boxes**, go to Part 1-C on the next page.

******Please Continue on the Next Page******

Part 1-A

These instructions <u>are only for people</u> who checked only one event on the previous page.

The rest of the questionnaires ask about difficulties and beliefs that people sometimes have in response to stressful life experiences. When filling out these questionnaires, please think <u>only</u> about the stressful event you checked off on the last page. Skip to Part 2 (on the next page).

Part 1-B

These instructions are <u>only for people</u> who checked more than one event on the previous page.

Looking at the different events that you reported experiencing on the last questionnaire, put a checkmark in the box below next to the event which affected you or bothers you the most.

- ❑ Accident
- ❑ Disaster
- ❑ Non-Sexual assault/someone you know
- ❑ Non -sexual assault/stranger
- ❑ Sexual assault/someone you know
- ❑ Sexual assault/stranger
- ❑ Combat
- ❑ Sexual contact under 18 with someone 5 or more years older
- ❑ Imprisonment
- ❑ Torture
- ❑ Life-threatening illness
- ❑ Other

The rest of the questionnaires ask about difficulties and beliefs that people sometimes have in response to stressful life experiences. When filling out these questionnaires, please think <u>only</u> about the stressful event you checked off above. Skip to part 2 (the next page).

Part 1-C

These instructions are <u>only for people</u> who did not check any events on the previous page.

The rest of the questionnaires ask about difficulties and beliefs that people sometimes have in response to stressful life experiences. Please think of one stressful life experience that you think really affected you or still bothers you in some way. When filling out these questionnaires, please think <u>only</u> about this one stressful event. Go to Part 2 (the next page).

******Please Turn Over and Complete on Reverse******

PART 2

14 In the box below, briefly describe the above stressful event

15. How long ago did this stressful event happen? (Circle only ONE)
   1. Less than 1 month
   2. 1 to 3 months
   3. 3 to 6 months
   4. 6 months to 3 years
   5. 3 to 5 years
   6. More than 5 years

For the following questions, circle Y for Yes and N for No

During this stressful event

16 Y N Were you physically injured?
17 Y N Was someone else physically injured?
18 Y N Did you think that your life was in danger?
19 Y N Did you think that someone else's life was in danger?
20 Y N Did you feel helpless?
21 Y N Did you feel terrified?

PART 3

Below is a list of problems that people sometimes have after experiencing a stressful event. Read each one carefully and circle the number (0-3) that best describes how often that problem has bothered you IN THE PAST MONTH. Rate each problem with respect to the stressful event you described in Item 14.

0	Not at all or only one time
1	Once a week or less / once in a while
2	2 to 4 times a week / half the time
3	5 or more times a week / almost always

22 0 1 2 3 Having upsetting thoughts or images about the traumatic event that came into your head when you didn't want them to

23 0 1 2 3 Having bad dreams or nightmares about the traumatic event

24 0 1 2 3 Reliving the traumatic event, acting or feeling as if it was happening again

25 0 1 2 3 Feeling emotionally upset when you were reminded of the traumatic event (for example, feeling scared, angry, sad, guilty, etc

26 0 1 2 3 Experiencing physical reactions when reminded of the traumatic event (for example, breaking out in a sweat, heart beating fast)

27 0 1 2 3 Trying not to think about, talk about, or have feelings about the traumatic event

28 0 1 2 3 Trying to avoid activities, people, or places that remind you of the traumatic event

29 0 1 2 3 Not being able to remember an important part of the traumatic event

30 0 1 2 3 Having much less interest or participating much less often in important activities

31 0 1 2 3 Feeling distant or cut off from people around you

32 0 1 2 3 Feeling emotionally numb (for example, being unable to cry or unable to have loving feelings)

33 0 1 2 3 Feeling as of your future plans or hopes will not come true (for example, you will not have a career, marriage, children, or a long life)

34 0 1 2 3 Having trouble falling or staying asleep

******Please Continue on the Next Page******

0	Not at all or only one time
1	Once a week or less / once in a while
2	2 to 4 times a week / half the time
3	5 or more times a week / almost always

35. 0 1 2 3 Feeling irritable or having fits of anger

36. 0 1 2 3 Having trouble concentrating (for example, drifting in and out of conversations, losing track of a story on television, forgetting what you read)

37. 0 1 2 3 Being overly alert (for example, checking to see who is around you, being uncomfortable with you back to a door, etc.

38. 0 1 2 3 Being jumpy or easily startled (for example, when someone walks up behind you

If you answered "0" to items 22-38 above, you are finished with this questionnaire; otherwise, please continue.

39. How long have you experienced the problems that you reported above? (circle ONE)
    1 Less than 1 month
    2 1 to 3 months
    3 More than 3 months

40. How long after the stressful event did these problems begin? (circle ONE)
    1 Less than 6 months
    2 6 or more months

PART 4

Indicate below if the problems you rated in Part 3 have interfered with any of the following areas of your life DURING THE PAST MONTH.

Circle Y for Yes or N for No.

41. Y N Work

42. Y N Household chores and duties

43. Y N Relationships with friends

44. Y N Fun and leisure activities

45. Y N Schoolwork

46. Y N Relationships with your family

47. Y N Sex life

48. Y N General satisfaction with life

49. Y N Overall level of functioning in all areas of your life

******Thank You for Participating!!!******

APPENDIX B

INTAKE CONSENT FORM

Consent Form

Study: The impact of major and minor life events on functioning.

Experimenters: Sue Orsillo, Ph.D. and Blake Evans, M.S.

I, _____, hereby authorize and direct Sue Orsillo, Ph.D., or associates or assistants of her choosing, to perform the procedures listed here:

1. Purpose: This study is designed to investigate the impact of stressful life experiences on current day functioning, particularly on your current thoughts, feelings and behaviors.

2. Procedures: Your participation in this study includes two sessions during which you will be asked to fill out a packet of several questionnaires, some of which may ask about past stressful life events. Today is the first session; you will be called in early April to schedule the second session.

3. Duration of Participation: It is estimated that your participation in this study will require about 2 hours - 1 hour today and 1 hour at the next session.

4. Confidentiality: All questionnaires will be identified only by a numerical subject number and will not be associated with your name. This form, which will have your name on it, will be kept in a secure location separate from your questionnaires.

   However, there are two instances in which we will need to identify which questionnaires are yours. First, because we are looking at questionnaires from two sessions, we need to match up your packets from time 1 and 2. When you leave the first session, you will be asked to indicate in our log book your first name only, a personal code word you will remember (e.g., dog), and the subject number you have been assigned. When you come back for the second session, you will then be able to look up your subject number and mark it on the time 2 packet.

   Second, after you complete the questionnaires, you will be asked if you are interested in being contacted about participating in additional, related research projects. If you are interested in being contacted about such studies, we will need to identify which questionnaires are yours to determine your eligibility for this project. Either way, your questionnaires will always be stored separately from your name.

   There are also conditions specified by law under which confidentiality cannot be maintained. Current Oklahoma law requires that any ongoing child abuse (including sexual abuse, physical abuse, and neglect) of a minor must be reported to state officials. In addition, if an individual reports that he/she intends to harm himself/herself or others, legal and professional standards require that the individual must be kept from harm, even if confidentiality must be broken. Finally, confidentiality could be broken if materials from this study were subpoenaed by a court of law.

   Lastly, the results of this study may be published in a scientific journal, however your personal identity and your individual questionnaire responses would not be revealed.

5. Risks: The risks of participating in this study are minimal and do not exceed those ordinarily encountered in daily life. Some individuals may experience mild discomfort in providing the information requested about lifetime experiences and current functioning. If at any point in the study you experience discomfort, you may withdraw from the study; also if you have questions or concerns, myself or my assistants will be available to discuss these with you. Also, information about services available in the community will be made available to you at your request.

6. Benefits: As a research participant, you may both gain some insight into your own behavior, as well as experience first hand how scientific research is conducted. You will also receive 1 credit for each hour or partial hour of participation. Through information obtained in research studies like this one, assessments and treatments can be refined to offer help to people with psychological difficulties.

I have been fully informed about the procedures listed here. I am aware of what I will be asked to do and of the risks and benefits of the study. I also understand the following statements:

I certify that I am 18 years of age or older.

My participation today is part of an investigation entitled: **The impact of major and minor life events on functioning.**

The purpose of the procedures is to investigate the impact of stressful life experiences on current day functioning. I understand that participation is voluntary, that there is no penalty for refusal to participate, and that I am free to withdraw my consent and participation in this project at any time, without penalty, after notifying the project director.

I may contact Sue Orsillo, Ph.D. at (405) 744-4392 should I wish further information about the study. I may also contact Gay Clarkson, IRB executive Secretary, 203 Whitehurst, Oklahoma State University, Stillwater, OK, 74078. (405) 744-5700.

I have read and fully understand the consent form. I sign it freely and voluntarily. A copy has been given to me. I hereby give permission for my participation.

_____ _____ _____

Signature of Participant Date Time (AM/PM)

_____ _____

Signature of Witness Date

I certify that I have personally completed all the blanks in this form and have explained them to the subject before requesting that the subject sign the form.

_____

Signature of Project Director

APPENDIX C

INTAKE DEBRIEFING FORM

Debriefing Form

Thank you for taking part in session one of this study.

Although many people who experience a potentially traumatic event (PTE) cope quite well, a significant minority go on to have difficulties in functioning. One type of difficulty has to do with emotions. One goal of this study is to determine if people with a history of a PTE have difficulty experiencing and expressing their emotions. We are also interested in finding out about different types of cognitive, or concentration and attention, problems. Further, we wanted to find out whether or not being open to one's emotional experiences (rather than avoiding them) helps individuals cope with a traumatic experience.

There are some other questions that this study addresses which are focused on during the second session. After you complete the questionnaires in the second session, we will give you more information about our specific goals. Remember, we will be contacting you in several weeks to remind you of the date, time and location of that second questionnaire session.

In the meantime, if you have any questions about this study or your own reactions to the material, please feel free to talk with one of the research assistants or call Sue Orsillo, Ph.D., 744-4392. Counseling services are also available locally:

University Counseling Center
310 Student Union
744-5472
for OSU students only

Psychological Services Center
118 North Murray
744-5975
fees based on income

Student Mental Health Clinic
002 Student Health Center
744-7007
for OSU students only

Edwin Fair Community Mental Health
712 Devon Road
372-1250
fees based on income

Thank you again.

APPENDIX D

FOLLOW-UP SURVEY

Subject Number	Date
_____	_____

For Office Use Only Spring 1999 Phase 2	Entered	Verified
	_____	_____

1. How old are you?_____ **2. What is your gender?**_____

3. What is your primary race or ethnic origin (circle one)?

1) Caucasian
2) Native American
3) Asian
4) African-American/ Black
5) Hispanic
6) Other (specify)_____

4. How would you best describe your current relationship status (circle one)?

1) Single, no current relationship
2) Unmarried, in a committed relationship
3) Married
4) Other (specify)_____

5. Do you have any children (circle one)?

YES NO If so, how many? _____

6. How would you best describe your current living situation (circle one)?

1) Live on campus or in a rental with others
2) Live alone
3) Live with family
4) Other (specify)_____

7. How important is religion to you? (please circle)

0	1	2	3	4
Not At All	A Little Bit	Moderately	Quite A Bit	Extremely

8. How many friends and relatives do you feel close to (please write in the number)? _____

9. How satisfied are you with the number of close relationships that you have?

0	1	2	3	4
Not At All	A Little Bit	Moderately	Quite A Bit	Extremely

10. How close have you felt to your closest friends and relatives this last year?

0	1	2	3	4
Not At All	A Little Bit	Moderately	Quite A Bit	Extremely

11. How satisfied have you been with the closeness of the relationship this last year?

0	1	2	3	4
Not At All	A Little Bit	Moderately	Quite A Bit	Extremely

12. How often have you turned to your close friends or relatives for support this last year?

0	1	2	3	4
Not At All	A Little Bit	Moderately	Quite A Bit	A Lot

******Please Turn Over and Complete on Reverse******

WSI

INSTRUCTIONS:

Listed below are a variety of events that may be viewed as stressful or unpleasant. Read each item carefully and decide whether or not that event happened to you DURING THIS PAST WEEK. If the event did not happen this week, circle the "X" to the right of that item. If the event did happen, show the amount of stress that it caused you by circling a number from 1 to 7 to the right of that item (see scale below). Additionally, if the event happened 3 or more times during the past week, put a check in the blank to the right of that item.

EXAMPLE: Example 1 is of an event that did not occur this past week.
Example 2 occurred 4 times this past week and was very stressful.

		DID NOT HAPPEN	1 SLIGHTLY STRESSFUL NOT STRESSFUL	2	3 MODERATELY STRESSFUL MILDLY STRESSFUL	4	5 VERY STRESSFUL STRESSFUL	6	7 FOR MORE TIMES THIS WEEK EXTREMELY STRESSFUL	
1. Had a hangnail	1	X	1	2	3	4	5	6	7	
2. Computer didn't work	2	X	1	2	3	4	5	6	7	X

		DID NOT HAPPEN	1 SLIGHTLY STRESSFUL NOT STRESSFUL	2	3 MODERATELY STRESSFUL MILDLY STRESSFUL	4	5 VERY STRESSFUL STRESSFUL	6	7 FOR MORE TIMES THIS WEEK EXTREMELY STRESSFUL	
1. Had a job or assignment overdue	1	X	1	2	3	4	5	6	7	
2. Bothered with red tape	2	X	1	2	3	4	5	6	7	
3. Argued with a coworker	3	X	1	2	3	4	5	6	7	
4. Customers or clients gave you a hard time	4	X	1	2	3	4	5	6	7	
5. Did poorly at a job, task, or chore	5	X	1	2	3	4	5	6	7	
6. Hurried to meet a deadline	6	X	1	2	3	4	5	6	7	
7. Was interrupted during a job, task, activity, or thinking	7	X	1	2	3	4	5	6	7	
8. Someone spoiled your completed job, task, or chore	8	X	1	2	3	4	5	6	7	
9. Did something you were not good at	9	X	1	2	3	4	5	6	7	
10. Unable to finish job, task, or chore	10	X	1	2	3	4	5	6	7	
11. Unable to finish all plans for the week	11	X	1	2	3	4	5	6	7	
12. Was late for work or appointment	12	X	1	2	3	4	5	6	7	
13. Was graded or evaluated on your performance	13	X	1	2	3	4	5	6	7	
14. Worked late or overtime	14	X	1	2	3	4	5	6	7	
15. Not enough money for basics (food, clothing, etc.)	15	X	1	2	3	4	5	6	7	
16. Ran out of pocket money	16	X	1	2	3	4	5	6	7	
17. Had unexpected bills (traffic fines, etc.)	17	X	1	2	3	4	5	6	7	
18. Had problems paying bills	18	X	1	2	3	4	5	6	7	
19. Not enough money for fun (movie, eating out) or recreation	19	X	1	2	3	4	5	6	7	

******Please Continue on the Next Page******

WSI (continued)

		X = IT DID NOT HAPPEN	1 = SLIGHTLY STRESSFUL NOT STRESSFUL	2	3 = MODERATELY STRESSFUL MIDDLY STRESSFUL	4	5 = VERY STRESSFUL STRESSFUL	6	7 = 10 OR MORE TIMES THIS WEEK EXTREMELY STRESSFUL	
20. Had problem obtaining ride or transportation	20	X	1	2	3	4	5	6	7	
21. Drove under bad conditions (traffic, weather)	21	X	1	2	3	4	5	6	7	
22. Had car trouble	22	X	1	2	3	4	5	6	7	
23. Had minor auto accident	23	X	1	2	3	4	5	6	7	
24. Argued with husband, wife, boyfriend, or girlfriend	24	X	1	2	3	4	5	6	7	
25. Child misbehaved	25	X	1	2	3	4	5	6	7	
26. Child had school problems	26	X	1	2	3	4	5	6	7	
27. Minor illness of husband, wife, child, or loved one	27	X	1	2	3	4	5	6	7	
28. Husband or wife had problems at work	28	X	1	2	3	4	5	6	7	
29. Not enough time for family and friends	29	X	1	2	3	4	5	6	7	
30. Had crime in the neighborhood	30	X	1	2	3	4	5	6	7	
31. Had household chores (shopping, cooking, etc.)	31	X	1	2	3	4	5	6	7	
32. Had minor home repairs	32	X	1	2	3	4	5	6	7	
33. Had problems with neighbors	33	X	1	2	3	4	5	6	7	
34. Ran out of food or personal item	34	X	1	2	3	4	5	6	7	
35. Your property was damaged	35	X	1	2	3	4	5	6	7	
36. Store did not have something you wanted	36	X	1	2	3	4	5	6	7	
37. Had problems with pet (dog, cat, etc.)	37	X	1	2	3	4	5	6	7	
38. Heard a rumor or something bad about yourself	38	X	1	2	3	4	5	6	7	
39. Was told what to do	39	X	1	2	3	4	5	6	7	
40. Was lied to, fooled or tricked	40	X	1	2	3	4	5	6	7	
41. Was misunderstood or misquoted	41	X	1	2	3	4	5	6	7	
42. Had confrontation with someone of authority (police, boss)	42	X	1	2	3	4	5	6	7	
43. Was criticized or verbally attacked	43	X	1	2	3	4	5	6	7	
44. Was around unpleasant people (drunk, bigot, rude)	44	X	1	2	3	4	5	6	7	
45. Had unexpected guests	45	X	1	2	3	4	5	6	7	
46. Did poorly because of others	46	X	1	2	3	4	5	6	7	
47. Was forced to socialize	47	X	1	2	3	4	5	6	7	
48. Someone broke a promise	48	X	1	2	3	4	5	6	7	
49. Someone broke an appointment	49	X	1	2	3	4	5	6	7	
50. Competed with someone	50	X	1	2	3	4	5	6	7	
51. Argued with a friend	51	X	1	2	3	4	5	6	7	
52. Not enough time to socialize	52	X	1	2	3	4	5	6	7	
53. Was ignored by others	53	X	1	2	3	4	5	6	7	
54. Had someone disagree with you	54	X	1	2	3	4	5	6	7	
55. Spoke or performed in public	55	X	1	2	3	4	5	6	7	

******Please Turn Over and Complete on Reverse******

WSI (continued)

		DOES NOT HAPPEN	DID NOT HAPPEN BUT NOT STRESSFUL	SLIGHTLY STRESSFUL: MILDLY STRESSFUL	MODERATELY STRESSFUL: MILDLY STRESSFUL	VERY STRESSFUL: STRESSFUL	VERY STRESSFUL: EXTREMELY STRESSFUL	6 OR MORE TIMES THIS WEEK: EXTREMELY STRESSFUL	
56. Was interrupted while talking	56	X	1	2	3	4	5	6	7
57. Was stared at	57	X	1	2	3	4	5	6	7
58. Had someone "cut" in front of you	58	X	1	2	3	4	5	6	7
59. Unable to express self clearly	59	X	1	2	3	4	5	6	7
60. Had unwanted physical contact (crowded)	60	X	1	2	3	4	5	6	7
61. Dealt with rude waiter, waitress, or salesperson	61	X	1	2	3	4	5	6	7
62. Was without privacy	62	X	1	2	3	4	5	6	7
63. Was excluded or left out	63	X	1	2	3	4	5	6	7
64. Had too many responsibilities	64	X	1	2	3	4	5	6	7
65. Had to make important decision	65	X	1	2	3	4	5	6	7
66. Did not hear from someone you expected to	66	X	1	2	3	4	5	6	7
67. Was disturbed while trying to sleep	67	X	1	2	3	4	5	6	7
68. Forgot something	68	X	1	2	3	4	5	6	7
69. Heard some bad news	69	X	1	2	3	4	5	6	7
70. Was clumsy (spilled or knocked something over)	70	X	1	2	3	4	5	6	7
71. Lost or misplaced something (wallet, keys)	71	X	1	2	3	4	5	6	7
72. Had legal problems	72	X	1	2	3	4	5	6	7
73. Waited longer than you wanted	73	X	1	2	3	4	5	6	7
74. Did something you did not want to do	74	X	1	2	3	4	5	6	7
75. Had to face a feared situation or object	75	X	1	2	3	4	5	6	7
76. Had "pet peeve" violated (someone fails to knock, etc.)	76	X	1	2	3	4	5	6	7
77. Failed to understand something	77	X	1	2	3	4	5	6	7
78. Had close escape from danger	78	X	1	2	3	4	5	6	7
79. Had minor accident (broke something, tore clothing)	79	X	1	2	3	4	5	6	7
80. Someone borrowed something without asking	80	X	1	2	3	4	5	6	7
81. Had minor injury (stubbed toe, sprained ankle, etc.)	81	X	1	2	3	4	5	6	7
82. Was physically uncomfortable (cold, wet, hungry)	82	X	1	2	3	4	5	6	7
83. Stopped unwanted habit (smoking, overeating, etc.)	83	X	1	2	3	4	5	6	7
84. Interrupted while relaxing	84	X	1	2	3	4	5	6	7
85. Not enough time for fun (movie, eating out) or recreation	85	X	1	2	3	4	5	6	7
86. Did poorly at a sport or game	86	X	1	2	3	4	5	6	7
87. Saw an upsetting TV show, movie, or read an upsetting book, etc.	87	X	1	2	3	4	5	6	7
Any we missed? (List below)									
88.	88	X	1	2	3	4	5	6	7
89.	89	X	1	2	3	4	5	6	7

******Please Continue on the Next Page******

LES

INSTRUCTIONS:

Listed below are a number of events which sometimes bring about change in the lives of those who experience them and which necessitate social readjustment. *Please indicate, by checking the appropriate box to the right of the item, if you have experienced any of these events since you first participated in this study, earlier this semester.*

Also, for each item that you have checked below, *please indicate the extent to which you viewed the event as having either a positive or negative impact on your life* AT THE TIME THE EVENT OCCURRED. *That is, indicate the type and extent of impact that the event had.* (A rating of -3 would indicate an extremely negative impact. A rating of 0 suggests no impact either positive or negative. A rating of +3 would indicate an extremely positive impact.)

		DID NOT HAPPEN	EXTREMELY NEGATIVE	MODERATELY NEGATIVE	SOMEWHAT NEGATIVE	NO IMPACT	SLIGHTLY POSITIVE	MODERATELY POSITIVE	EXTREMELY POSITIVE
EXAMPLE: This example is of an event that occurred 1 month ago that had a somewhat negative impact.									
1. Attacked by a dog	1		-3	-2	(-1)	0	+1	+2	+3

		DID NOT HAPPEN	EXTREMELY NEGATIVE	MODERATELY NEGATIVE	SOMEWHAT NEGATIVE	NO IMPACT	SLIGHTLY POSITIVE	MODERATELY POSITIVE	EXTREMELY POSITIVE
1. Marriage	1		-3	-2	-1	0	+1	+2	+3
2. Detention in jail or comparable institution	2		-3	-2	-1	0	+1	+2	+3
3. Death of spouse	3		-3	-2	-1	0	+1	+2	+3
4. Major change in sleeping habits (much more or less sleep)	4		-3	-2	-1	0	+1	+2	+3
5. Death of close family member:									
a. mother	5a		-3	-2	-1	0	+1	+2	+3
b. father	b		-3	-2	-1	0	+1	+2	+3
c. brother	c		-3	-2	-1	0	+1	+2	+3
d. sister	d		-3	-2	-1	0	+1	+2	+3
e. grandmother	e		-3	-2	-1	0	+1	+2	+3
f. grandfather	f		-3	-2	-1	0	+1	+2	+3
g. other (specify)	g		-3	-2	-1	0	+1	+2	+3
6. Major change in eating habits (much more or less intake)	6		-3	-2	-1	0	+1	+2	+3
7. Foreclosure on mortgage or loan	7		-3	-2	-1	0	+1	+2	+3
8. Death of close friend	8		-3	-2	-1	0	+1	+2	+3
9. Outstanding personal achievement	9		-3	-2	-1	0	+1	+2	+3
10. Minor law violation (traffic tickets, disturbing the peace, etc.)	10		-3	-2	-1	0	+1	+2	+3
11. *Male*: Wife/girlfriends pregnancy	11		-3	-2	-1	0	+1	+2	+3
12. *Female*: Pregnancy	12		-3	-2	-1	0	+1	+2	+3

******Please Turn Over and Complete on Reverse******

LES (continued)

			POSITIVE/DID NOT HAPPEN	EXTREMELY NEGATIVE	MODERATELY NEGATIVE	SOMEWHAT NEGATIVE	NO IMPACT	SLIGHTLY POSITIVE	MODERATELY POSITIVE	EXTREMELY POSITIVE
13.	Changed work situation (different work responsibility, major change in working conditions, working hours, etc.)	13		-3	-2	-1	0	+1	+2	+3
14.	New job	14		-3	-2	-1	0	+1	+2	+3
15.	Serious illness or injury of close family member:									
	a. father	15a		-3	-2	-1	0	+1	+2	+3
	b. mother	b		-3	-2	-1	0	+1	+2	+3
	c. sister	c		-3	-2	-1	0	+1	+2	+3
	d. brother	d		-3	-2	-1	0	+1	+2	+3
	e. grandfather	e		-3	-2	-1	0	+1	+2	+3
	f. grandmother	f		-3	-2	-1	0	+1	+2	+3
	g. spouse	g		-3	-2	-1	0	+1	+2	+3
	h. other (specify)	h		-3	-2	-1	0	+1	+2	+3
16.	Sexual difficulties	16		-3	-2	-1	0	+1	+2	+3
17.	Trouble with employer (in danger of losing job, being suspended, demoted, etc.)	17		-3	-2	-1	0	+1	+2	+3
18.	Trouble with in-laws	18		-3	-2	-1	0	+1	+2	+3
19.	Major change in financial status (a lot better or worse off)	19		-3	-2	-1	0	+1	+2	+3
20.	Major change in closeness of family members (increased or decreased closeness)	20		-3	-2	-1	0	+1	+2	+3
21.	Gaining a new family member (through birth, adoption, family member moving in, etc.)	21		-3	-2	-1	0	+1	+2	+3
22.	Change of residence	22		-3	-2	-1	0	+1	+2	+3
23.	Marital separation from mate (due to conflict)	23		-3	-2	-1	0	+1	+2	+3
24.	Major change in church activities (increased or decreased attendance)	24		-3	-2	-1	0	+1	+2	+3
25.	Marital reconciliation with mate	25		-3	-2	-1	0	+1	+2	+3
26.	Major change in number of arguments with spouse (a lot more or less arguments)	26		-3	-2	-1	0	+1	+2	+3
27.	*Married male*: Change in wife's work outside the home (beginning work, ceasing work, new job, etc.)	27		-3	-2	-1	0	+1	+2	+3
28.	*Married female*: Change in husband's work outside the home (loss of job, new job, retirement, etc.)	28		-3	-2	-1	0	+1	+2	+3
29.	Major change in usual type or amount or recreation	29		-3	-2	-1	0	+1	+2	+3
30.	Borrowing more than $10,000 (buying home, business, etc.)	30		-3	-2	-1	0	+1	+2	+3
31.	Borrowing less than $10,000 (buying car, TV, getting school loan, etc.)	31		-3	-2	-1	0	+1	+2	+3
32.	Being fired from job	32		-3	-2	-1	0	+1	+2	+3
33.	*Male*: Wife/girlfriend having abortion	33		-3	-2	-1	0	+1	+2	+3
34.	*Female*: Having abortion	34		-3	-2	-1	0	+1	+2	+3

******Please Continue on the Next Page******

LES (continued)

		DID NOT HAPPEN	EXTREMELY NEGATIVE	MODERATELY NEGATIVE	SOMEWHAT NEGATIVE	NO IMPACT	SLIGHTLY POSITIVE	MODERATELY POSITIVE	EXTREMELY POSITIVE
35. Major personal illness or injury	35		-3	-2	-1	0	+1	+2	+3
36. Major change in social activities, e.g., parties, movies, visiting (increased or decreased participation)	36		-3	-2	-1	0	+1	+2	+3
37. Major change in living conditions of family (building new home, remodeling, deterioration of home, neighborhood, etc.)	37		-3	-2	-1	0	+1	+2	+3
38. Divorce	38		-3	-2	-1	0	+1	+2	+3
39. Serious injury or illness of close friend	39		-3	-2	-1	0	+1	+2	+3
40. Retirement from work	40		-3	-2	-1	0	+1	+2	+3
41. Son or daughter leaving home (due to marriage, college, etc.)	41		-3	-2	-1	0	+1	+2	+3
42. Ending of formal schooling	42		-3	-2	-1	0	+1	+2	+3
43. Separation from spouse (due to work, travel, etc.)	43		-3	-2	-1	0	+1	+2	+3
44. Engagement	44		-3	-2	-1	0	+1	+2	+3
45. Breaking up with boyfriend/girlfriend	45		-3	-2	-1	0	+1	+2	+3
46. Leaving home for the first time	46		-3	-2	-1	0	+1	+2	+3
47. Reconciliation with boyfriend/girlfriend	47		-3	-2	-1	0	+1	+2	+3
Other recent experiences which had an impact on your life. List and rate.									
48.	48		-3	-2	-1	0	+1	+2	+3
49.	49		-3	-2	-1	0	+1	+2	+3
50.	50		-3	-2	-1	0	+1	+2	+3
Numbers 51-60 Students only.									
51. Beginning a new school experience at a higher academic level (college, graduate school, professional school, etc.)	51		-3	-2	-1	0	+1	+2	+3
52. Changing to a new school at same academic level (undergraduate, graduate, etc.)	52		-3	-2	-1	0	+1	+2	+3
53. Academic probation	53		-3	-2	-1	0	+1	+2	+3
54. Being dismissed from dormitory or other residence	54		-3	-2	-1	0	+1	+2	+3
55. Failing an important exam	55		-3	-2	-1	0	+1	+2	+3
56. Changing a major	56		-3	-2	-1	0	+1	+2	+3
57. Failing a course	57		-3	-2	-1	0	+1	+2	+3
58. Dropping a course	58		-3	-2	-1	0	+1	+2	+3
59. Joining a fraternity/sorority	59		-3	-2	-1	0	+1	+2	+3
60. Financial problems concerning school (in danger of not having sufficient money to continue)	60		-3	-2	-1	0	+1	+2	+3

******Please Turn Over and Complete on Reverse******

BSI

INSTRUCTIONS:

Below is a list of problems people sometimes have. Please read each one carefully, and circle the number to the right that best describes HOW MUCH THAT PROBLEM HAS DISTRESSED OR BOTHERED YOU DURING THE PAST MONTH. Circle only one number for each problem and do not skip any items. If you change your mind, erase your first mark carefully. Read the example below before beginning, and if you have any questions please ask about them.

EXAMPLE

HOW MUCH WERE YOU DISTRESSED BY:		NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	EXTREMELY
1. Bodyaches		0	1	2	3	4

HOW MUCH WERE YOU DISTRESSED BY:		NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	EXTREMELY
1. Nervousness or shakiness inside	1	0	1	2	3	4
2. Faintness or dizziness	2	0	1	2	3	4
3. The idea that someone else can control your thoughts	3	0	1	2	3	4
4. Feeling others are to blame for most of your troubles	4	0	1	2	3	4
5. Trouble remembering things	5	0	1	2	3	4
6. Feeling easily annoyed or irritated	6	0	1	2	3	4
7. Pains in heart or chest	7	0	1	2	3	4
8. Feeling afraid in open spaces or on the streets	8	0	1	2	3	4
9. Thoughts of ending your life	9	0	1	2	3	4
10. Feeling that most people cannot be trusted	10	0	1	2	3	4
11. Poor appetite	11	0	1	2	3	4
12. Suddenly scared for no reason	12	0	1	2	3	4
13. Temper outbursts that you could not control	13	0	1	2	3	4
14. Feeling lonely even when you are with people	14	0	1	2	3	4
15. Feeling blocked in getting things done	15	0	1	2	3	4
16. Feeling lonely	16	0	1	2	3	4
17. Feeling blue	17	0	1	2	3	4
18. Feeling no interest in things	18	0	1	2	3	4
19. Feeling fearful	19	0	1	2	3	4
20. Your feelings being easily hurt	20	0	1	2	3	4
21. Feeling that people are unfriendly or dislike you	21	0	1	2	3	4
22. Feeling inferior to others	22	0	1	2	3	4

******Please Continue on the Next Page******

BSI (continued)

HOW MUCH WERE YOU DISTRESSED BY:		0= NOT AT ALL	1= A LITTLE BIT	2= MODERATELY	3= QUITE A BIT	4= EXTREMELY
23. Nausea or upset stomach	23	0	1	2	3	4
24. Feeling that you are watched or talked about by others	24	0	1	2	3	4
25. Trouble falling asleep	25	0	1	2	3	4
26. Having to check and double check what you do	26	0	1	2	3	4
27. Difficulty making decisions	27	0	1	2	3	4
28. Feeling afraid to travel on buses, subways, or trains	28	0	1	2	3	4
29. Trouble getting your breath	29	0	1	2	3	4
30. Hot or cold spells	30	0	1	2	3	4
31. Having to avoid certain things, places, or activities because they frighten you	31	0	1	2	3	4
32. Your mind going blank	32	0	1	2	3	4
33. Numbness or tingling in parts of your body	33	0	1	2	3	4
34. The idea that you should be punished for your sins	34	0	1	2	3	4
35. Feeling hopeless about the future	35	0	1	2	3	4
36. Trouble concentrating	36	0	1	2	3	4
37. Feeling weak in parts of your body	37	0	1	2	3	4
38. Feeling tense or keyed up	38	0	1	2	3	4
39. Thoughts of death or dying	39	0	1	2	3	4
40. Having urges to beat, injure, or harm someone	40	0	1	2	3	4
41. Having urges to break or smash things	41	0	1	2	3	4
42. Feeling very self-conscious with others	42	0	1	2	3	4
43. Feeling uneasy in crowds, such as shopping or at a movie	43	0	1	2	3	4
44. Never feeling close to another person	44	0	1	2	3	4
45. Spells of terror or panic	45	0	1	2	3	4
46. Getting into frequent arguments	46	0	1	2	3	4
47. Feeling nervous when you are left alone	47	0	1	2	3	4
48. Others not giving you proper credit for your achievements	48	0	1	2	3	4
49. Feeling so restless you couldn't sit still	49	0	1	2	3	4
50. Feelings of worthlessness	50	0	1	2	3	4
51. Feeling that people will take advantage of you if you let them	51	0	1	2	3	4
52. Feelings of guilt	52	0	1	2	3	4
53. The idea that something is wrong with your mind	53	0	1	2	3	4

******Please Turn Over and Complete on Reverse******

COR - FOL

INSTRUCTIONS:

Listed below are a number of things which make life easier and/or more enjoyable. You may have experienced a loss of some of these resources this semester, since you first participated in this study. Please read each one carefully, and circle the number to the right that best describes how much you have experienced a loss in that resource SINCE YOU FIRST PARTICIPATED IN THIS STUDY, EARLIER THIS SEMESTER. Please circle only one number for each resource and do not skip any items.

EXAMPLE HOW MUCH HAVE YOU EXPERIENCED A LOSS IN:		NO LOSS	A LITTLE BIT	MODERATE AMOUNT	QUITE A BIT	EXTREME AMOUNT	
1. Schoolwork	1	0	1	2	3	4	

HOW MUCH HAVE YOU EXPERIENCED A LOSS IN:		NO LOSS	A LITTLE BIT	MODERATE AMOUNT	QUITE A BIT	EXTREME AMOUNT	
1. Personal transportation	1	0	1	2	3	4	
2. Home contents (furnishings)	2	0	1	2	3	4	
3. Time for adequate sleep	3	0	1	2	3	4	
4. Sentimental possessions (photo albums, etc.)	4	0	1	2	3	4	
5. Clothing	5	0	1	2	3	4	
6. Feeling valuable to others	6	0	1	2	3	4	
7. Family stability	7	0	1	2	3	4	
8. "Free time"	8	0	1	2	3	4	
9. Pets	9	0	1	2	3	4	
10. Vegetation on your property (trees, shrubs, etc.)	10	0	1	2	3	4	
11. Intimacy with one or more family members	11	0	1	2	3	4	
12. Time for work	12	0	1	2	3	4	
13. Feeling that I am accomplishing my goals	13	0	1	2	3	4	
14. Relationship with my children	14	0	1	2	3	4	
15. Time with loved ones	15	0	1	2	3	4	
16. Necessary tools for work	16	0	1	2	3	4	
17. Stamina or endurance	17	0	1	2	3	4	
18. Adequate food	18	0	1	2	3	4	
19. Daily routine	19	0	1	2	3	4	
20. Personal health	20	0	1	2	3	4	
21. Sense of optimism	21	0	1	2	3	4	
22. Necessary appliances for my home	22	0	1	2	3	4	
23. Personal residence	23	0	1	2	3	4	
24. Sense of humor	24	0	1	2	3	4	

******Please Continue on the Next Page******

COR - FOL (continued)

HOW MUCH HAVE YOU EXPERIENCED A LOSS IN:		NO LOSS	A LITTLE BIT	MODERATE AMOUNT	QUITE A BIT	EXTREME AMOUNT	
25. Stable employment	25	0	1	2	3	4	
26. Feeling that I have control over my life	26	0	1	2	3	4	
27. Essentials for children	27	0	1	2	3	4	
28. Feeling that my life is peaceful	28	0	1	2	3	4	
29. Ability to organize tasks	29	0	1	2	3	4	
30. Intimacy with at least one friend	30	0	1	2	3	4	
31. Money for "extras"	31	0	1	2	3	4	
32. Understanding from my employer or boss	32	0	1	2	3	4	
33. Savings or emergency money	33	0	1	2	3	4	
34. Motivation to get things done	34	0	1	2	3	4	
35. Support from co-workers	35	0	1	2	3	4	
36. Adequate income	36	0	1	2	3	4	
37. Advancement in my education or training	37	0	1	2	3	4	
38. Adequate credit (financial)	38	0	1	2	3	4	
39. Feeling independent	39	0	1	2	3	4	
40. Companionship	40	0	1	2	3	4	
41. Financial assets (stocks, property, etc.)	41	0	1	2	3	4	
42. Affection from others	42	0	1	2	3	4	
43. Feeling that my life has meaning or purpose	43	0	1	2	3	4	
44. Involvement with church, synagogue, etc.	44	0	1	2	3	4	
45. Retirement security (financial)	45	0	1	2	3	4	
46. Help with tasks at home	46	0	1	2	3	4	
47. Loyalty of friends	47	0	1	2	3	4	
48. Help with childcare	48	0	1	2	3	4	
49. Involvement in organizations with others who have similar interests	49	0	1	2	3	4	
50. Financial help if needed	50	0	1	2	3	4	
51. Health of family or close friends	51	0	1	2	3	4	
52. Positive feelings about myself	52	0	1	2	3	4	
53. Hope	53	0	1	2	3	4	
54. Feeling that I am successful	54	0	1	2	3	4	
55. Financial stability	55	0	1	2	3	4	
56. Money for advancement or self-improvement (education, starting a business)	56	0	1	2	3	4	
57. Advancement in my education or training	57	0	1	2	3	4	
58. Feeling my future success depends on me	58	0	1	2	3	4	
59. Knowing where I am going with my life	59	0	1	2	3	4	
60. Sense of pride in myself	60	0	1	2	3	4	

******Please Turn Over and Complete on Reverse******

Traumatic Events

Many people have lived through or witnessed a very stressful and traumatic event at some point in their lives. Below is a list of traumatic events. Put a checkmark in the box next to ALL of the events that have happened to you or that you have witnessed.

1. ❑ Serious accident, fire, or explosion (for example, an industrial, farm, car, plane, or boating accident)
2. ❑ Natural disaster (for example, tornado, hurricane, flood, or major earthquake)
3. ❑ Non-sexual assault by a family member or someone you know (for example, being mugged, physically attacked, shot, stabbed, or held at gunpoint)
4. ❑ Non-sexual assault by a stranger (for example, being mugged, physically attacked, shot, stabbed, or held at gunpoint)
5. ❑ Sexual assault by a family member or someone you know (for example, rape or attempted rape)
6. ❑ Sexual assault by a stranger (for example, rape or attempted rape)
7. ❑ Military combat or a war zone
8. ❑ Sexual contact when you were younger than 18 with someone who was 5 or more years older than you (for example, contact with genitals, breasts)
9. ❑ Imprisonment (for example, prison inmate, prisoner of war, hostage)
10. ❑ Torture
11. ❑ Life-threatening illness
12. ❑ Other traumatic event
13. If you marked item 12, specify the traumatic event below.

_____

_____

If you checked **one box** above, go to part 1-A on the next page.
If you checked **more than one box** above, go to Part 1-B on the next page.
If you **did not check any boxes**, go to Part 1-C on the next page.

******Please Turn Over and Complete on Reverse******

Part 1-A

These instructions <u>are only for people</u> who checked only one event on the previous page.

The rest of the questionnaires ask about difficulties and beliefs that people sometimes have in response to stressful life experiences. When filling out these questionnaires, please think <u>only</u> about the stressful event you checked off on the last page. Skip to Part 2 (on the next page).

Part 1-B

These instructions are <u>only for people</u> who checked more than one event on the previous page.

Looking at the different events that you reported experiencing on the last questionnaire, put a checkmark in the box below next to the event which affected you or bothers you the most.

- ☐ Accident
- ☐ Disaster
- ☐ Non-sexual assault/someone you know
- ☐ Non-sexual assault/stranger
- ☐ Sexual assault/someone you know
- ☐ Sexual assault/stranger
- ☐ Combat
- ☐ Sexual contact under 18 with someone 5 or more years older
- ☐ Imprisonment
- ☐ Torture
- ☐ Life-threatening illness
- ☐ Other

The rest of the questionnaires ask about difficulties and beliefs that people sometimes have in response to stressful life experiences. When filling out these questionnaires, please think <u>only</u> about the stressful event you checked off above. Skip to part 2 (the next page).

Part 1-C

These instructions are <u>only for people</u> who did not check any events on the previous page.

The rest of the questionnaires ask about difficulties and beliefs that people sometimes have in response to stressful life experiences Please think of one stressful life experience that you think really affected you or still bothers you in some way. When filling out these questionnaires, please think <u>only</u> about this one stressful event. Go to Part 2 (the next page).

******Please Continue on the Next Page******

PART 2

14. **In the box below, briefly describe the above stressful event.**

15. How long ago did this stressful event happen? (Circle only ONE)
    1. Less than 1 month
    2. 1 to 3 months
    3. 3 to 6 months
    4. 6 months to 3 years
    5. 3 to 5 years
    6. More than 5 years

For the following questions, circle Y for Yes and N for No

During this stressful event

16 Y N Were you physically injured?
17 Y N Was someone else physically injured?
18 Y N Did you think that your life was in danger?
19 Y N Did you think that someone else's life was in danger?
20 Y N Did you feel helpless?
21 Y N Did you feel terrified?

PART 3

Below is a list of problems that people sometimes have after experiencing a stressful event. Read each one carefully and circle the number (0-3) that best describes how often that problem has bothered you IN THE PAST MONTH. Rate each problem with respect to the stressful event you described in Item 14.

0	**Not at all or only one time**
1	**Once a week or less / once in a while**
2	**2 to 4 times a week / half the time**
3	**5 or more times a week / almost always**

22 0 1 2 3 Having upsetting thoughts or images about the traumatic event that came into your head when you didn't want them to

23 0 1 2 3 Having bad dreams or nightmares about the traumatic event

24 0 1 2 3 Reliving the traumatic event, acting or feeling as if it was happening again

25 0 1 2 3 Feeling emotionally upset when you were reminded of the traumatic event (for example, feeling scared, angry, sad, guilty, etc

26 0 1 2 3 Experiencing physical reactions when reminded of the traumatic event (for example, breaking out in a sweat, heart beating fast)

27 0 1 2 3 Trying not to think about, talk about, or have feelings about the traumatic event

28 0 1 2 3 Trying to avoid activities, people, or places that remind you of the traumatic event

29 0 1 2 3 Not being able to remember an important part of the traumatic event

30 0 1 2 3 Having much less interest or participating much less often in important activities

31 0 1 2 3 Feeling distant or cut off from people around you

32 0 1 2 3 Feeling emotionally numb (for example, being unable to cry or unable to have loving feelings)

33 0 1 2 3 Feeling as of your future plans or hopes will not come true (for example, you will not have a career, marriage, children, or a long life)

34 0 1 2 3 Having trouble falling or staying asleep

******Please Turn Over and Complete on Reverse******

0	Not at all or only one time
1	Once a week or less / once in a while
2	2 to 4 times a week / half the time
3	5 or more times a week / almost always

35. 0 1 2 3 Feeling irritable or having fits of anger

36. 0 1 2 3 Having trouble concentrating (for example, drifting in and out of conversations, losing track of a story on television, forgetting what you read)

37. 0 1 2 3 Being overly alert (for example, checking to see who is around you, being uncomfortable with you back to a door, etc.

38. 0 1 2 3 Being jumpy or easily startled (for example, when someone walks up behind you

If you answered "0" to items 22-38 above, you are finished; otherwise, please continue.

39. How long have you experienced the problems that you reported above? (circle ONE)
    1 Less than 1 month
    2 1 to 3 months
    3 More than 3 months

40. How long after the stressful event did these problems begin? (circle ONE)
    1 Less than 6 months
    2 6 or more months

PART 4

Indicate below if the problems you rated in Part 3 have interfered with any of the following areas of your life DURING THE PAST MONTH.

Circle Y for Yes or N for No.

41. Y N Work

42. Y N Household chores and duties

43. Y N Relationships with friends

44. Y N Fun and leisure activities

45. Y N Schoolwork

46. Y N Relationships with your family

47. Y N Sex life

48. Y N General satisfaction with life

49. Y N Overall level of functioning in all areas of your life

******Thank You For Participating!!!!!******

APPENDIX E

FOLLOW-UP CONSENT FORM

Consent Form

Study: The impact of major and minor life events on functioning.

Experimenter: Sue Orsillo, Ph.D. and Blake Evans, M.S.

I, _____, hereby authorize and direct Sue Orsillo, Ph.D., or associates or assistants of her choosing, to perform the procedures listed here:

1. Purpose: This study is designed to investigate the impact of stressful life experiences on current day functioning, particularly on your current thoughts, feelings and behaviors.

2. Procedures: Your participation in this study includes two sessions, today being the second session, during which you will be asked to fill out a packet of several questionnaires, some of which may ask about past stressful life events.

3. Duration of Participation: It is estimated that your participation in this study will require about 3 hours - 2 hours in the first session and 1 hour today.

4. Confidentiality: All questionnaires will be identified only by a numerical subject number and will not be associated with your name. This form, which will have your name on it, will be kept in a secure location separate from your questionnaires.

   However, there are two instances in which we will need to identify which questionnaires are yours. First, because we are looking at questionnaires from two sessions, we need to match up your packets from time 1 and 2.

   Second, when you took part in the first phase of this study, you were asked if you were interested in being contacted about participating in additional, related research projects. If you told us that you were interested in being contacted about such studies, we will need to identify which questionnaires are yours to determine your eligibility for this project. Either way, your questionnaires will always be stored separately from your name.

   There are also conditions specified by law under which confidentiality cannot be maintained. Current Oklahoma law requires that any ongoing child abuse (including sexual abuse, physical abuse, and neglect) of a minor must be reported to state officials. In addition, if an individual reports that he/she intends to harm himself/herself or others, legal and professional standards require that the individual must be kept from harm, even if confidentialty must be broken. Finally, confidentiality could be broken if materials from this study were subpoenaed by a court of law.

   Lastly, the results of this study may be published in a scientific journal, however your personal identity and your individual questionnaire responses would not be revealed.

5. Risks: The risks of participating in this study are minimal and do not exceed those ordinarily encountered in daily life. Some individuals may experience mild discomfort in providing the information requested about lifetime experiences and current functioning. If at any point in the study you experience discomfort, you may withdraw from the study; also if you have questions or concerns, myself or my assistants will be available to discuss these with you. Also, information about services available in the community will be made available to you at your request.

6. Benefits: As a research participant, you may both gain some insight into your own behavior, as well as experience first hand how scientific research is conducted. You will also receive 1 credit for each hour or partial hour of participation. Through information obtained in research studies like this one, assessments and treatments can be refined to offer help to people with psychological difficulties.

I have been fully informed about the procedures listed here. I am aware of what I will be asked to do and of the risks and benefits of the study. I also understand the following statements:

I certify that I am 18 years of age or older

My participation today is part of an investigation entitled: **The impact of major and minor life events on functioning.**

The purpose of the procedures is to investigate the impact of stressful life experiences on current day functioning. I understand that participation is voluntary, that there is no penalty for refusal to participate, and that I am free to withdraw my consent and participation in this project at any time, without penalty, after notifying the project director.

I may contact Sue Orsillo, Ph.D. at (405) 744-4392 should I wish further information about the study. I may also contact Gay Clarkson, IRB executive Secretary, 203 Whitehurst, Oklahoma State University, Stillwater, OK, 74078. (405) 744-5700.

I have read and fully understand the consent form. I sign it freely and voluntarily. A copy has been given to me. I hereby give permission for my participation.

_____ _____ _____

Signature of Participant Date Time (AM/PM)

_____ _____

Signature of Witness Date

I certify that I have personally completed all the blanks in this form and have explained them to the subject before requesting that the subject sign the form.

_____

Signature of Project Director

APPENDIX F

FOLLOW-UP DEBRIEFING FORM

Debriefing Form

Thank you for taking part in this study.

The loss of resources following stressful events has been found to be directly associated with an individual's ability to cope with such events. Resources include such things as social support, self-esteem, time, or more tangible items. The amount that people have developed a surplus of such resources can help to offset such a loss brought on by a stressful event. Other things that may affect such loss includes an expectancy of loss going into the stressful event or what type of experiences the person has had with stressful life events in the past. In this study we are interested in looking at the relationship between the amount of resources that you had coming into this semester and how that has effected your current ability to cope with stressors. We are also interested in seeing if your expectancies regarding how stressful you thought this semester was going to be have affected your abilities to cope with stress.

If you have any questions about this study or your own reactions to the material, please feel free to talk with one of the research assistants or call Sue Orsillo, Ph.D., 744-4392. We are also including a handout on common reactions to trauma, and ways to cope with potentially traumatic events. Counseling services are also available locally:

University Counseling Center 310 Student Union 744-5472 for OSU students only	Psychological Services Center 118 North Murray 744-5975 fees based on income
Student Mental Health Clinic 002 Student Hospital 744-7007 for OSU students only	Edwin Fair Community Mental Health 712 Devon Road 372-1250 fees based on income

Thank you again.

APPENDIX G

TABLES

Table 1

Follow-up Participation Rate and Non-response Rate

	n	Percentage of Intake (n = 365)
Questionnaire Completed	298	81.65
No Show for Follow-up	25	6.85
Telephone Non-response		
Left Message with Person or Machine	16	4.38
No Answer	10	2.74
Refusal / Didn't need Class Credit	9	2.46
Refusal / Dropped Class	3	.82
Phone not in Service	2	.55
Student Moved / No Forwarding Number	2	.55

Table 2

Comparisons of Those who Completed and Those who did Not Complete Follow-up Measures

Variable	Follow-up (n = 298) n (%)	No Follow-up (n = 67) n (%)	Chi-Square
Sex (male)	90 (30.3)	38 (56.72)	16.89**
Ethnicity			3.92*
Caucasian	256 (85.91)	51 (76.12)	
Other	42 (14.09)	16 (23.88)	
Relationship Status			2.03
Not in a relationship	172 (57.72)	45 (67.16)	
In a relationship	126 (42.28)	22 (32.84)	

Variable	Follow-up (n = 298) M (SD)	No Follow-up (n = 67) M (SD)	t (365)
Age	20.41 (3.45)	19.75 (3.35)	1.42
Psychological Distress	.57 (.48)	.59 (.46)	-.24
PTSD Symptomology	5.15 (7.72)	6.43 (7.25)	-1.20
Major Life Events	-9.47 (7.45)	-10.40 (7.09)	.97
Minor Life Events	88.79 (51)	90.33 (55.87)	-.21
Resource Loss	31.48 (26.02)	29.63 (20.66)	.63
Expected Resource Loss	24.48 (24.58)	22.86 (23.43)	.50

Note: Because of small group sizes, "Native American," "Asian," "African American," "Hispanic," and "Other" ethnicity categories were combined to make "Other;" and "Single, in a relationship" and "Married" relationship categories were combined to make "In a relationship."

* $p < .05$; ** $p < .001$

Table 3

PTSD Diagnostic Criteria and Traumatic Life Event Characteristics of Those who Completed Follow-up

Variable	Intake		Follow-up	
	n	Percentage	n	Percentage
PTSD Diagnostic Criteria Met	19	5.21	11	3.69
Traumatic Life Event[ψ]				
Serious accident	65	17.81	7	2.34
Natural disaster	53	14.52	12	4.03
Assault by someone known	12	3.29	0	.00
Assault by stranger	6	1.64	0	.00
Sexual assault by someone known	20	5.48	1	.34
Sexual assault by stranger	5	1.37	0	.00
Military combat / war zone	1	.27	1	.34
Sexual contact under 18	8	2.19	0	.00
Imprisonment	2	.55	0	.00
Torture	0	.00	1	.34
Life-threatening illness	45	12.33	4	1.34
Witnessing someone mutilated	10	2.74	0	.00
Sudden unexpected death	26	7.12	2	.67
Learning about a trauma to others	7	1.92	3	1.07
Other traumatic event	7	1.92	2	.67
Any Traumatic Event	267	73.15	33	11.07

Note: "Sexual contact under 18" = "Sexual contact when you were younger than 18 with someone who was 5 or more years older than you;" "Witnessing someone mutilated" = "Witnessing someone mutilated, seriously injured, or violently killed;" "Sudden unexpected death" = "Sudden unexpected death of a close friend or relative."

[ψ] "Traumatic Life Event" at intake is the number and percentage of participants who chose that event as most distressing (Those choosing a non-traumatic life event = 94, 25.8%). "Traumatic Life Event" at follow-up includes those participants who experienced that event between intake and follow-up and chose it as most distressing (Those choosing a non-traumatic life event, or an event which occurred prior to intake = 265, 88.9%).

Table 4

Psychological Distress, PTSD Symptom Severity, Major and Minor Life Event, and Resource Characteristics of Those who Completed Follow-up

	Intake		Follow-up	
Variable	M	SD	M	SD
Psychological Distress	.57	.48	.41	.40
PTSD Symptomology	5.15	7.72	4.78	8.12
Major Life Events	-9.47	7.45	-6.85	5.87
Minor Life Events	88.79	51.00	85.40	55.68
Resource Loss	31.48	26.02	20.69	18.79
Expected Resource Loss	24.48	24.58	—	—

Table 5

COR-E Confounded and Non-confounded Items

Non-confounded COR-E Items (n = 40)	
1. Personal transportation	32. Understanding from my employer or boss
2. Home contents (furnishings)	33. Savings or emergency money
4. Sentimental possessions (photo albums, etc.)	36. Adequate income
5. Clothing	37. Advancement in my education or training
7. Family stability	38. Adequate credit (financial)
8. "Free time"	39. Feeling independent
9. Pets	41. Financial assets (stocks, property, etc.)
10. Vegetation on your property (trees, shrubs, etc.)	42. Affection from others
12. Time for work	44. Involvement with church, synagogue, etc.
14. Relationship with my children	45. Retirement security (financial)
15. Time with loved ones	46. Help with tasks at home
16. Necessary tools for work	47. Loyalty of friends
18. Adequate food	48. Help with childcare
19. Daily routine	49. Involvement in organizations with others who have similar interests
22. Necessary appliances for my home	50. Financial help if needed
23. Personal residence	51. Health of family or close friends
24. Sense of humor	55. Financial stability
25. Stable employment	56. Money for advancement or self-improvement (education, starting a business)
26. Feeling that I have control over my life	57. Advancement in my education or training
27. Essentials for children	
31. Money for "extras"	
Confounded COR-E Items (n = 20)	
3. Time for adequate sleep	34. Motivation to get things done
6. Feeling valuable to others	35. Support from co-workers
11. Intimacy with one or more family members	40. Companionship
13. Feeling that I am accomplishing my goals	43. Feeling that my life has meaning or purpose
17. Stamina or endurance	52. Positive feelings about myself
20. Personal health	53. Hope
21. Sense of optimism	54. Feeling that I am successful
28. Feeling that my life is peaceful	58. Feeling my future success depends on me
29. Ability to organize tasks	59. Knowing where I am going with my life
30. Intimacy with at least one friend	60. Sense of pride in myself

Table 6

Correlations between Demographic Variables and Outcome and Predictor Variables

Predictor or Outcome Variable	Demographic Variable			
	Age	Sex	Ethnicity	Relationship Status
Distress (T1)	-.02	.00	.12*	.06
Distress (T2)	.02	-.13*	.11	.03
PTSD Symptoms (T1)	.05	-.03	.15*	.06
PTSD Symptoms (T2)	.13*	-.14*	.10	.06
Traumatic Events (T1)	.11*	-.05	.06	.04
Traumatic Events (T2)	.13*	-.05	.07	.06
Major Events (T1)	-.01	-.10	.04	.05
Major Events (T2)	-.02	.00	.11	.11
Minor Events (T1)	-.02	.00	.08	.09
Minor Events (T2)	.02	-.05	.03	.06
Resource Loss (T1)	.04	-.01	.11	.06
Resource Loss (T2)	.03	-.04	.23***	.00
Expected Loss (T1)	.04	-.05	.07	.08

Note: These interrelations are expressed by correlation coefficients if both variables are continuous, by multiple correlations if one variable is nominal (dummy coded) and the other continuous, by Phi Coefficients if both variables are nominal and dichotomous, and by Cramer's V if both variables are nominal and one or both have more than two levels. All variables with the exceptions of Traumatic Events, Sex, Ethnicity, and Relationship Status are continuous. Traumatic Events and Sex are dichotomous, and Ethnicity and Relationship Status are nominal with more than two levels. T1 = measure taken at time one, T2 = measure taken at time two.

* $p < .05$; ** $p < .01$; *** $p < .001$;

Table 7

Intercorrelations Among Outcome and Predictor Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Distress (T1)	—	.77***	.38***	.40***	.15**	.06	-.37***	-.39***	.54***	.57***	.68***	.58***	.59***
2. Distress (T2)		—	.49***	.52***	.17**	.03	-.32***	-.47***	.47***	.61***	.56***	.68***	.56***
3. PTSD Symptoms (T1)			—	.63***	.03	.03	-.37***	-.36***	.33***	.41***	.34***	.35***	.28***
4. PTSD Symptoms (T2)				—	.13*	.15*	-.26***	-.29***	.27***	.38***	.36***	.34***	.35***
5. Traumatic Events (T1)					—	.02	.13*	.05	.12*	.10	.09	.15*	.09
6. Traumatic Events (T2)						—	.00	.06	.05	.00	.00	.07	.00
7. Major Events (T1)							—	.45***	-.41***	-.43***	-.46***	-.40***	-.37***
8. Major Events (T2)								—	-.38***	-.5***	-.39***	-.62***	-.34***
9. Minor Events (T1)									—	.63***	.51***	.51***	.39***
10. Minor Events (T2)										—	.50***	.59***	.50***
11. Resource Loss (T1)											—	.59***	.81***
12. Resource Loss (T2)												—	.57***
13. Expected Loss (T1)													—

Note: These interrelations are expressed by correlation coefficients if both variables are continuous, by multiple correlations if one variable is categorical (dummy coded) and the other continuous, and by Phi Coefficients if both variables are categorical and dichotomous. All variables are continuous, with the exception of the Traumatic Event variables which are dichotomous. T1 = measure taken at time one, T2 = measure taken at time two.
* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 8

Psychological Distress by Resource Loss Severity at Intake and Follow-up

Number of Elevated COR Categories	Time 1			Time 2		
	n	M	SD	n	M	SD
0	182	.35	.30	147	.24	.24
1	76	.57	.43	70	.39	.28
2	49	.75	.38	40	.67	.51
3	34	1.01	.57	26	.69	.41
4	24	1.29	.47	14	1.10	.57

Table 9

Associations between Resource Loss at Intake and Follow-up for All Groups of Resource Loss at Intake by Life Events at Follow-up

Type of Life Event	r			
	Low Resource Loss		High Resource Loss	
	Low Event	High Event	Low Event	High Event
Minor Life Events	.43***	.32*	.28*	.31**
Major Life Events	.47***	.31*	.34**	.36***
Traumatic Life Events	.46***	.45	.41***	.54*

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 10

Number of Participants and Mean Resource Loss Score at Follow-up for All Groups of Resource Loss at Intake by Life Events at Follow-up

Type of Life Event	Low Resource Loss				High Resource Loss			
	Low Event		High Event		Low Event		High Event	
	M	n	M	n	M	n	M	n
Minor Life Events	8.96	96	16.33	46	16.33	51	35.03	101
Major Life Events	9.03	92	17.51	41	18.72	68	37.54	82
Traumatic Life Events	9.8	123	14.82	16	21.68	134	32.28	15

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 11

Summary of Regression Analysis for Minor, Major, and Traumatic Life Events and Resource Loss Predicting Outcomes at Intake and Follow-up

	Intake		Follow-up	
Predictor Variable	Psychological Distress	PTSD Symptoms	Psychological Distress	PTSD Symptoms
Demographic Variables β[ψ]	.03	-.09*	-.09	-.10 / .10
Minor Life Events β	.25***	.15**	.30***	.25***
Major Life Events β	-.02	-.25***	-.01	-.06
Traumatic Life Events β	.06	-.04	.00	.09
Resource Loss β	.54***	.14*	.51***	.15
$\underline{R}$	.72	.45	.74	.42
$\underline{R}^2$	.52	.20	.54	.18
$\underline{F}$	95.85***	16.23***	79.55***	13.36***

Note: $\underline{\Delta R}^2$ for resource loss at intake was .18 for BSI and .01 for PTSD, $\underline{\Delta R}^2$ for resource loss at follow-up was .13 for BSI and .01 for PTSD.

[ψ] Only demographic variables found to be related to the dependent variable of interest were included within analyses 1) distress at intake, ethnicity 2) distress at follow-up, gender; 3) PTSD symptoms at intake, ethnicity; 4) PTSD symptoms at follow-up, gender / age.

* $\underline{p} < .05$; ** $\underline{p} < .01$; *** $\underline{p} < .001$.

Table 12

Regression Analysis for Gender, Psychological Distress, Resource Loss, and Expected Resource Loss at Intake and Resource Loss at Follow-up Predicting Psychological Distress at Follow-up

	Beta by Step in Regression				
Predictor Variable by Block	1	2	3	4	5
1. Gender	-.13*	-.13***	-.13***	-.12***	-.12***
2. Psychological Distress (T1)		.77***	.74***	.72***	.62***
3. Resource Loss (T1)			.04	-.09	-.16*
4. Expected Loss (T1)				.17**	.09
5. Resource Loss (T2)					.36***

Note: T1 = measure taken at intake, T2 = measure taken at follow-up. Step 1. $R^2 = .02$, $F(1, 293) = 5.29$, $p < .05$. Step 2. $R^2 = .61$, $F(2, 292) = 231.49$, $p < .001$. Step 3. $R^2 = .61$, $F(3, 291) = 154.30$, $p < .001$. Step 4. $R^2 = .62$, $F(4, 290) = 119.88$, $p < .001$. Step 5. $R^2 = .70$, $F(5, 289) = 134.31$, $p < .001$.

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 13

Power Analyses of All Hypotheses

Hypothesis / Analysis	Effect Size[¥]	Actual n	n Needed[Ω]
1. Resource loss and psychological distress at intake (C)	.681***	363	18
Resource loss and psychological distress at follow-up (C)	.682***	296	18
Resource loss and PTSD symptomology at intake (C)	.343***	325	125
Resource loss and PTSD symptomology at follow-up (C)	.336***	267	125
2. Expected loss and psychological distress at intake (C)	.592***	363	27
Expected loss and PTSD symptomology at intake (C)	.283***	323	125
3. Levels of resource loss and psychological distress at intake (A)	.486***	365	25
Levels of resource loss and psychological distress at follow-up (A)	.548***	297	25
4. Resource loss and expected loss at intake (C)	.808***	363	12
5. Combined resource loss and psychological distress at follow-up (C)	.690***	295	18
6. Expected loss at intake and minor life events at follow-up (C)	.343***	282	125
Expected loss at intake and major life events at follow-up (C)	.500***	293	41
7. Resource loss at intake and follow-up for loss / event categories:			
low loss / low minor event (C)	.432***	96	68
low loss / high minor event (C)	.319*	46	125
high loss / low minor event (C)	.279*	51	125
high loss / high minor event (C)	.308**	101	125
low loss / low major event (C)	.472***	92	41
low loss / high major event (C)	.314*	41	125
high loss / low major event (C)	.337**	68	125
high loss / high major event (C)	.364***	82	68
low loss / low traumatic event (C)	.464***	123	41
low loss / high traumatic event (C)	.446	16	68
high loss / low traumatic event (C)	.411***	134	68
high loss / high traumatic event (C)	.537*	15	41
8. Resource loss and psychological distress at intake (C)	.526***	357	41
Resource loss and psychological distress at follow-up (C)	.471***	274	41
Resource loss and PTSD symptomology at intake (C)	.136*	322	1163
Resource loss and PTSD symptomology at follow-up (C)	.104	249	1163
9. Expected loss at intake and psychological distress at follow-up (C)	.154**	294	287

Note: A = ANOVA, C = correlation

[¥] "Effect size" is given in f values for ANOVAs and r values for correlation or regression.

[Ω] "n Needed" denotes the number of participants needed to see the effect at a power of .80 and an a_2 value of .01(Cohen, 1988).

* $p < .05$, ** $p < .01$, *** $p < .001$

APPENDIX H

FIGURES

Figure 1

Psychological Distress by Resource Loss Severity

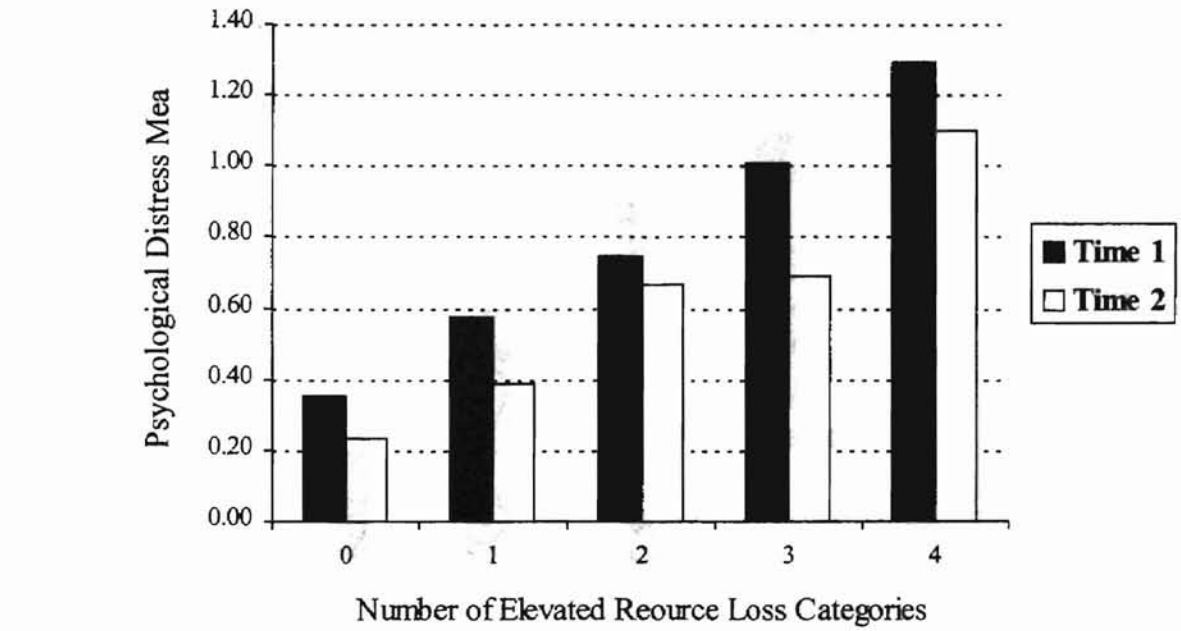


Figure 2

Percentage of Those Meeting Caseness Criteria for Psychological Distress by Resource Loss Severity

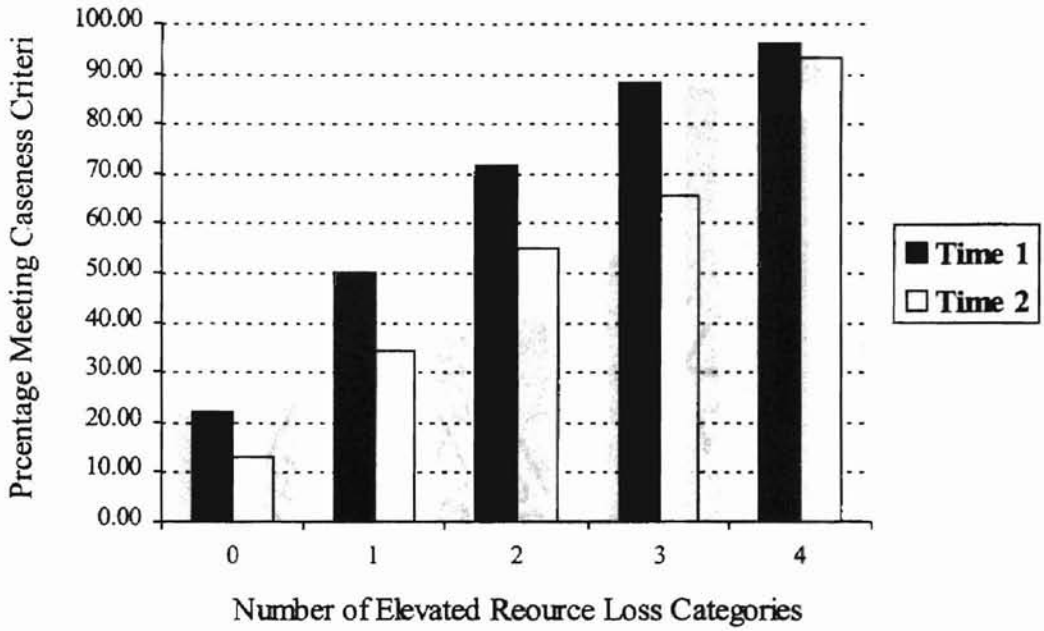
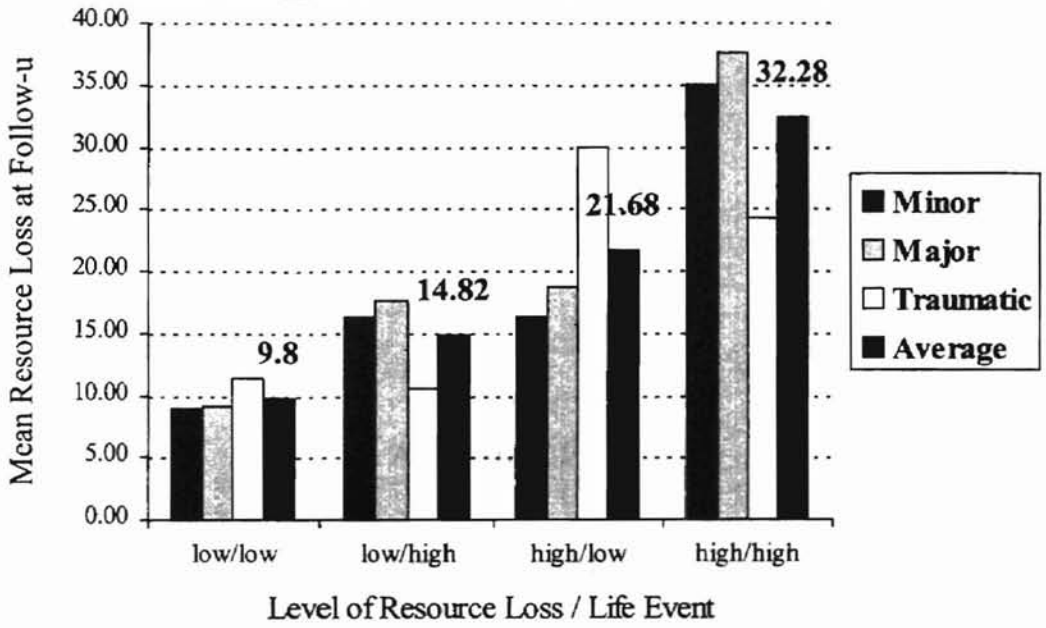


Figure 3

Mean Score on Resource Loss at Follow-up for all Categories of Resource Loss at Intake and Life Event at Follow-up



APPENDIX I

IRB APPROVAL FORM

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW

Date: 09-04-98 **IRB #:** AS-99-007

Proposal Title: THE IMPACT OF MAJOR AND MINOR LIFE EVENTS ON FUNCTIONING

Principal Investigator(s): Sue Orsillo, Blake Evans

Reviewed and Processed as: Expedited

Approval Status Recommended by Reviewer(s): Approved

Signature: _____ Date: September 14, 1998

Director of University Research Compliance
cc: Blake Evans

Approvals are valid for one calendar year, after which time a request for continuation must be submitted. Any modification to the research project approved by the IRB must be submitted for approval. Approved projects are subject to monitoring by the IRB. Expedited and exempt projects may be reviewed by the full Institutional Review Board.

VITA

Blake A. Evans

Candidate for the Degree of

Master of Science

Thesis: RESOURCE LOSS AND EXPECTED LOSS AS PREDICTORS OF DISTRESS FOR TRAUMATIC, MAJOR, AND MINOR LIFE EVENTS

Major Field: Psychology

Biographical:

Personal Data: Born in South Sioux City, Nebraska, On May 7, 1971, the son of William and Mary Evans.

Education: Graduated from South Sioux City High School, South Sioux City, Nebraska in May 1989; received Bachelor of Arts degree in Psychology and English from the University of Nebraska, Lincoln, Nebraska in December 1993; received Master of Science degree in Clinical Psychology at North Dakota State University, Fargo, North Dakota in December 1997. Completed the requirements for the Master of Science degree with a major in Psychology at Oklahoma State University in May 2000.

Experience: Obtained research experience working on more than ten different projects over the span of seven years on subjects including resource loss, dissociation, disaster outcome, terror management, social anxiety, depression and memory, and hopelessness. Received clinical experience working as a psychiatric technician at the Lincoln Regional Center for 17 months, and as a clinical psychology intern at five different facilities located in North Dakota and Oklahoma. Gained teaching experience as a teaching assistant for seven courses in psychology and as an instructor for a course in study skills.

Professional Memberships: American Psychological Association, Association for the Advancement of Behavior Therapy.